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To the Editors of the Medical and Physical Journal.

IT was my intention to have given you a detail of several particulars respecting the cow-pox; but various occurrences have prevented me, at present, from saying more on the subject, than what follows:

In my "Reports of Inoculation for the Cow-pox," published last month, it appears that more than one-half of the patients had pistules; I have, however observed, that the result would probably have been more favourable, if the matter used for communicating the infection, had been taken from those only, in whom the disease proved to be very mild.

My subsequent experience has now enabled me to say, that this opinion has been confirmed; or that the disease in its progress from patient to patient, has actually become much milder. For out of 310 cases of cow-pox, which have been since under my care, only 39 had pistules that suppurated; viz. out of the first 100, 19 had pistules; out of the second 13; and out of the last 110, only 7 had pistules. This information I deem of considerable importance, as it leads to a conclusion widely different from that published in the "Reports."

ELY-PLACE, *June* 13, 1799. W. WOODVILLE.

To the Editors of the Medical and Physical Journal.

AS your Journal embraces every object connected with medical science, I hope the following observations, though only pertaining to the history of medical literature, will find a place in your next Number.

R. LUBBOCK.

No person can feel a more lively sense of the value of MAYOW's writings than myself; and with that feeling I was induced, in a former Number of your Review, to add to the few names quoted by Dr. Yeats, many others, of great respectability, proving that, soon after the publication of Mayow's writings, they strongly arrested the attention of the learned in different parts of Europe, and met with as general a diffusion, as ever happened to any work marked with equal originality.

Dr. Yeats has admitted, that Mayow's writings in a few years after their publication, were quoted by many authors; but his zeal for the rights of

Mayow, which is, in many respects very meritorious, has led him into some erroneous conclusions; and more particularly when he infers, that during Mayow's life-time, his doctrine was mentioned by no author; when he indirectly accuses LOWER and THRUSTON of want of candour, in not quoting him; and when he says, that the authors quoting him, after his death, have many of them mistaken his opinions, by not making a distinction between fire-air particles, and nitre, properly so called.

It is with much pleasure that I now inform Dr. Yeats, that Mayow was gratified with observing the progress of his discoveries in Europe, during his life-time; for I find upon a more minute inquiry, that the dissertation on respiration, entitled "Abstrusum respirationis humanæ negotium, &c." published under the auspices of Etmuller, and which I formerly quoted from the edition of his works, printed after his death, 1697, was first published at Leipzig, in quarto, 1676, which period was two years after the appearance of the complete edition of Mayow's works. Oxon. 1674; and three years before his death, 1679.—I quote this dissertation with the greater pleasure, as I have met with no work, containing so full an examination of Mayow's opinions on respiration, as well as of the opinions of Bartholin, Malpighi, Swammerdam, Thruston, and others; and of the truth of which I am of opinion every medical reader will be convinced by its perusal: and, as Etmuller filled a professional chair at Leipsig, it is more than probable, that in his lectures he detailed and examined the opinions of Mayow on different subjects with those of other authors.

I might here repeat Mundy's name, who, I have no doubt, mentions Mayow, in his works printed at Oxford, 1680, a year after Mayow's death; and for whose authority Dr. Yeats would have felt more respect, had he, with more leisure, examined his chapter on contagion, as well as some other parts of his work.

Dr. Yeats having said, in a note to his work, although I believe erroneously, that Lower's treatise upon the heart was published many years before Mayow wrote, it is difficult for me to conceive on what ground he censures Lower for not citing him. And believing, as I do, that Lower's work appeared for the first time, 1699, the year after the publication of the first edition of Mayow's Treatise on Respiration, 1668, and granting Lower's work subsequent to Mayow's by a year, and when the latter was only known, by his treatise upon respiration and upon the rickets,—I see not why the duty of citation should attach to Lower. His experiments and inquiries must have been carried on and finished without the knowledge of Mayow's proceedings, and the sending them into the world, supported only by their intrinsic merits, was the act of a mind the most ingenious, yet feeling the exclusive right to its own independent labours and exertions.

How

How far Dr. Yeats is warranted in complaining of Thruſton, for not mentioning the name of Mayow, in his Diatribe, will appear from his own ſtatement. It is admitted by Dr. Yeats, that Thruſton's work was firſt made public, in 1664, as a theſis, before a crowded audience, at Cambridge, and that his principles were generally known by the learned, either by converſation, or by a manuſcript copy; for, as Dr. Yeats has obſerved, he expreſſes his obligations to Hook and Lower, for confirming his doctrine by their experiments; and, at the ſame time, complains of others, who had publicly attacked it, without mentioning his name. To prove alſo how generally Thruſton's opinions were known, before his work was in print, it may be obſerved, that NEEDHAM wrote a letter of congratulation to Thruſton, upon finding that his 'Diatribe' was about to be printed; and alſo that Sir GEORGE ENT, the firſt Phyſiologiſt of the age, wrote his Animadverſions upon Thruſton's work, and had them publiſhed with the firſt edition of it, 1670.—It appears from this ſtatement, that Thruſton's opinions, although not in print, were very generally known among the learned, and of courſe Mayow could be no ſtranger to them; and as they were made public in 1664, four years before Mayow printed his 'Tracts on Reſpiration and the Rickets', it is natural to conclude from theſe facts, in oppoſition to Dr. Yeats, that the duty of citation attached to Mayow; and that, inſtead of Thruſton quoting Mayow, Mayow ſhould have mentioned Thruſton. This inference ſeems to ſpring neceſſarily from the above facts; and in his 'Epiſtle to the Reader,' Thruſton ſeems to refer to ſome perſons, and perhaps to Mayow, who had anticipated, if not borrowed his opinions; for, in ſpeaking of his work, he ſays, "amiſit illa quidem fortaſſis aliquam novitatis gratiam, quâ ſe olim ſuis auditoribus, aliiſque commendaverit, quainque interim aliorum ſcripta, vel merita ſur vel ambierunt."

Neither can I ſubſcribe to the opinion of Dr. Yeats, that CONNOR and TABOR, by the terms *nitrum aëreum*, and *nitrum aëris*, have not made the diſtinction between fire-air particles, and nitre as ſuch; by theſe terms, they mean only a principle that air poſſeſſes in common with nitre; and Mayow himſelf makes uſe of the terms *nitrum aereum*, *particula nitro aerea*, & *ſpiritus nitro aereus*, indifferently, and as ſynonyms; and upon the ſame ground, according to the modern chemical nomenclature, when oxygen is ſaid to be the principle of acidity, and common to the nitrous and other acids, and to the air, it might be argued, that its nature is not underſtood, the air exhibiting no ſenſible traces of acidity.

NORWICH, *June* 12, 1799.

A remarkable Case of Petechiæ, unaccompanied by Fever.

[*Communicated by* J. F. DAVIS, *M. D. of Bath.*]

THE publication of extraordinary cases is not, perhaps, of so much utility as is generally imagined; for since they rarely occur, the information communicated cannot be of extensive advantage. A successful mode of treating one common disease, exceeds in value the detail of many curious and uncommon complaints. It belongs to science, however, to amuse, as well as to instruct mankind. With this view I have drawn up the following case, which, though not entirely new *, contains some striking peculiarities:

Monday, March 11th, I was desired by Mr. GOLDSTONE, surgeon in this city, to visit a boy labouring under a peculiar disease, which he considered as partaking very much of the nature of scurvy. The whole surface of his body was covered with light red, purple, and blackish spots, from the smallest size possible to that of a pea. They did not appear to be thicker on one part than on another. The arms were covered with them, like the body, but there were not many on the legs; on these, however, and on one of the arms, were larger spots, of a livid hue, commonly known by the name of vibices. That on the hand, his parents attributed to a bruise, which he had received before his illness; but as they could not account for those on the legs, it seems probable that they arose from a different cause. His gums bled profusely, and were in a very putrid state. Respiration was quick and laborious, and his breath extremely offensive; urine natural; bowels costive, there having been no stool for two days; he was sensible, but could not speak. It was evident that he could not live long; he died in the evening. I learned from his friends, that the eruption appeared first on Sunday, 13th of February, but that he continued to follow his usual occupation till the 3d of March, complaining only of being weaker than formerly. The spots had during this period increased in size. He was then seized with shivering, which was not followed by any perceptible fever. After that he coughed frequently, and blood was discharged from the lungs. On Friday, March 8th, he vomited near a quart of grumous blood, and his stomach was thereby much relieved from an oppression which had been extremely painful to him. Afterwards he discharged from his stomach, at different times, lumps of the same kind, but in smaller quantity.

In my endeavours to discover the cause of this strange appearance, great difficulties have occurred. The boy had not lived on food which was likely to

* See Withers, on the Asthma, p. 422.—Duncan's Cases and Observations, p. 90. —Memoirs of the Medical Society of London, Vol. IV.—Monthly Review, for [illegible]6, Vol. XIX. p. 478.

to occasion such a disease. He served a confectioner, and was fed with a variety of flesh and wholesome food. He slept at home, and though the house (his parents being poor) was small and dirty, he was not more exposed to danger on this account than his brothers, who bore on their cheeks the ruddy hue of health. I found that he had been much employed in the ice-house, and had frequently complained of the intense cold to which he was exposed in that situation. Could cold, together with damp and foul air, which abounds in those places, have produced the disease under consideration? Writers on scurvy admit that cold has considerable influence in the production of that disease, for *cæteris paribus*, it is much more common in cold than in warm climates. Cold moreover occasions an appearance on the hands and faces of children who have been long exposed to it, that it denotes a state of the capillaries approaching to that which takes place in petechiæ. No one, I believe, will deny that pure air is necessary to a healthy state of the blood.

Petechiæ, as a symptom of fever is well known; but as an idiopathic disease, proving fatal,* they are, I believe, extremely rare—so rare, indeed, that Dr. CULLEN has the following remark:—"Cum in quibusdam febribus, vel intermittentibus, vel continuis, in quibusvis etiam exanthematis et profluviis, modo in iis morbis sit quædam ad putredinem proclivitas, appareant petechiæ; has pro efflorescentia symptomatica, potius quam pro exanthemate idiopathico habere volui †." In this case they were certainly not symptomatic of fever. It bears a very near relation to scurvy, but some circumstances prove the difference.

To the Editors of the Medical and Physical Journal.

IN the third Number of your very interesting Journal, is a proposal for a new method of removing *steatomatous tumours*, by Professor WIMMER; who, in my opinion, is deservedly entitled to commendation for his ingenious treatment of them.

Whatever tends to diminish the *hazard*, or even the *trouble* of an operation, ought certainly to be strictly consulted by the surgeon; and, as tumours of this nature are not *unfrequently* so situated, as to be extirpated by the knife with *some degree* of danger, any other mode of removing them is certainly desirable.

I hope the following case may not be deemed unworthy a page in your Journal,

* In the cases to which I have before alluded, a cure was effected by means of bark, wine, and acids. The subject of my case did not seek relief, till it was too late. The most judicious plan of treatment was nevertheless employed by the surgeon who attended.

† Synop. Nos. Method. p. 152.

Journal, as it may probably be in some measure instrumental to the furtherance of that method of treatment, which I conceive will be found successful in most cases of similar nature.

About five weeks since I was desired to examine a tumour, which had been eighteen years situated on the abdomen, immediately over the left rectus muscle, at its *half intersection* below the umbilicus.

It palpably contained fat, and appeared to weigh rather more than a pound. The man wished for its extirpation by the knife; but, after perusing your Journal, I thought it a fair case for a seton. I accordingly passed one through its middle, and in the course of three days considerable inflammation ensued, terminating in the sphacelous sloughing of the whole tumour, —so that in twelve days from the introduction of the seton, nothing remained but a trifling induration, which readily yielded to the *ung. hydrarg.*

I am very far from expecting this case to be a sufficient warrant for the adoption of a similar treatment in all tumours of steatomatous nature; nor do I think the knife ought to be withheld in those instances where it can be used with impunity. Still, however, I am inclined to believe, that the treatment by seton will very frequently succeed; and wherever the state of the patient's strength is sufficient to undergo the process of *sphacelous separation*, it ought frequently to be practised.

HIGHAM FERRERS, *June* 12, 1799. THOMAS PECK.

To the Conductors of the Medical and Physical Journal.

I HAVE taken the liberty of sending you the inclosed account of the *deleterious effects of the lolium, or darnel*, which, if you should think worthy of insertion in your useful publication, it is my wish, that it may be so; at the same time I have to lament, that the progress of the poison was not taken down so minutely as it would have been, had I at the time entertained the least thought of its being exhibited to the public eye, but the authenticity of the facts may be depended on. It is also a circumstance of some concern to me, that it should not have fallen to the lot of some person, possessing greater abilities than myself, to have noticed the fact, that darnel produces effects extremely inimical to the animal economy; but as I entertain great hopes that the present hints may call forth those abilities, I consider it a duty incumbent on me, to mention the following, among many others that have occurred in the course of a practice of a few years in a partnership at Highworth, Wilts, with my brother-in-law, Mr. POWELL, to whom I am obliged for the successful mode pursued in several cases; and as in the northern part of the county of Wilts, the darnel much abounds, and the poorer class eat it with that part of the corn called tarling corn, I have hopes

hopes that a more succesful mode of treatment may be devised, which may save a numerous and well-deserving part of the community from great pain and torture.

PLYMOUTH-DOCK, *June* 12, 1799.
RICHARD MARSH,
Surgeon, (2d Wilts. Militia.)

In the month of September a sack of leased wheat with an equal quantity of tarling wheat, (*i. e.* the refuse seeds which pass the sieve) abounding very much with darnel (lolium), which by the generality of people, where the plant is much known, is called *cheat*, were ground and dressed together, and in the evening about ten o'clock, bread was made of a part of it. Of this bread, JAMES EDMONDS, about thirty-three years of age, and Robert his son, aged thirteen, eat the next morning about three o'clock; at five (two hours after), James became sick and giddy, vomited and purged much, felt pain and tightness in the calves of his legs, was confined at home the whole day, but on the following day was so far recovered, as to be able to resume his work. Robert eat, during the day, about a pound and a half of this bread, and at night on his return from his work, he eat more of the same; he fell giddy, and had pain of the head during the whole of the first day, with great pain and tightness of the legs, especially of the calves of the legs, extending to the ancles, attended with redness and swelling, and itching of the skin, but it did not vomit or purge him till the third day. James, eleven years old—John, three—and Elizabeth four,—all partook of this bread the following morning about nine o'clock. They soon became giddy, were sick, vomited and purged greatly, their legs became painful, felt excessive tight, were swelled, inflamed, and itched much, and continued in that state eight or nine days, when the symptoms gradually disappeared, producing in one of them only (James) a small collection of a gelatinous fluid, in the inside of the foot. But with Robert, who eat with his father at three o'clock in the morning, and also in the evening, and who was not vomited and purged till the third day, the pain and inflammation continued to increase, till it terminated in gangrene: sphacelous succeeded, and he was under the necessity of suffering amputation of both legs. Very little general fever accompanied this till the latter stage of the disease, which it is presumed, was the effect of absorption. The remedies made use of in this case (and that too without any sensible advantage) were, in the beginning, evacuants; in the latter stage, camphor and bark, with the use of spirituous fomentations and antisceptic cataplasms. It should however be remarked, that this poor family lived at seven or eight miles from medical assistance, and therefore they were not attended till two or three days after their attack.

In

In several cases which have since occurred, as soon as the legs became painful, attended with inflammation and swelling, scarifications were made of considerable length and depth, which, with evacuants in the very first stage, and afterwards large doses of camphor, with nitre and opium occasionally, have been attended with success.

It may perhaps be worthy of notice, to remark that this plant seems to have produced more deleterious effects when eaten quite new and warm, which was the case with James and Robert, at three o'clock in the morning; and there is no doubt but the father would have suffered equally with the son, had it not so soon been thrown off the stomach. There is also another circumstance to be noticed, which is, that all the patients I have seen have universally complained of violent pain in the calves of their legs, and expressing their pain nearly similar, viz. as though their calves were very tightly bound with cords.

To the Editors of the Medical and Physical Journal.

IF you think the following cases worthy of a place in your miscellany, I shall be happy to see them in your next Number.

DUDLEY, *June* 9th, 1799. THOMAS WAINWRIGHT.

WILLIAM PHILLIPS, in the fortieth year of his age, was attacked with insanity, which continued two years. From the time of the recovery of his faculties, he complained of pain in the thyroid gland, with cough, a husky voice, and difficulty of breathing.—This gland was enlarged and sore when handled too freely. The difficulty of respiration very much resembled what takes place on the croup: the sound was like that of air drawn through a straitened passage. After some weeks the respiration became very laborious; the pulse at this time was small, weak, frequent, and irregular. Loss of appetite and of sleep; great prostration of strength, restlessness, delirium, and convulsions closed the melancholy scene. The disease was evidently an inflammation of a part of the trachea. The repeated application of blisters and leeches to the seat of pain, and on which I had chiefly relied, availed nothing: in short no relief was obtained from the exhibition of medicine. The trachea being laid open after death, two pins without heads were found sticking, the one on the thyroid, and the other in the cricoid cartillage, opposed to each other, in an horizontal direction*. The trachea was much inflamed and ulceration had taken place round each pin. The ulceration had penetrated through the substance of the thyroid cartillage; the point of the pin

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* Mr. PHILLIPS, of Saville-House, Leicester-square, has a drawing of the trachea, with the pins in it.

pin preſſing againſt a veſication which had ariſen on the ſkin of the throat, a few hours before the patient's death, the ſecond pin was working its way by ulceration through the cricoid cartillage into the æſophagus. His friends could now recollect, that the deceaſed had, when inſane, been in the habit of ſwallowing pieces of iron, &c. and a mark was pointed out on the ſkin of the abdomen, where it was ſaid an iron ſkewer, which he had ſwallowed, had ulcerated through. Had the pin, which ſtuck in the thyroid cartillage, been the only one, I believe that the patient might have ſurvived, and that the pin would have eſcaped through the ulcerated opening, completed a few hours before his death, by the veſi[illegible]

If the cauſe of this extraordinary diſeaſe had been found out, and vomiting, coughing, and ſneezing, artificially excited, had failed to diſlodge the pins, a longitudinal inciſion might have been made into the trachea, and the pins extracted by the forceps or the finger. A lady of my acquaintance has a cicatrix on the ſkin of the throat, occaſioned by the uſe of cauſtic, which ſucceeded in opening a paſſage for a pin, which had got into the trachea. How had the pins got into this patient's throat?—Had he, as they were without heads, thruſt them externally through the integuments?—or were they ſwallowed, and accidently ſlipped into the trachea?—or had they ulcerated into the trachea from the æſophagus? The ſecond opinion is, perhaps, the moſt probable. It happened to a boy cracking nuts, that the ſhell of one ſlipped into the trachea: his life was ſaved by a violent fit of coughing, which expelled the nut-ſhell. A girl was brought into St. Thomas's hoſpital, in 1791 or 92, who was ſaid to have ſwallowed a cockle-ſhell. The whale-bone and ſponge were repeatedly applied to no purpoſe: an obſcure reſiſtance was thought to be felt in one part of the æſophagus. She died; and, upon diſſection, the cockle-ſhell was found in the trachea. The parts were preſerved, and are, I believe, in the collection of Mr. Ashley Cooper. A man, who had died ſuddenly in the ſtreet, was carried into St. Thomas's; his death was found to have been occaſioned by a piece of cheeſe having ſlipped into the trachea. There are grounds to ſuſpect two other caſes of diſeaſe in the trachea, which terminated fatally, to have ariſen from ſome extraneous body having fallen into it. Both were females: the one I attended nearly through the whole period of the diſeaſe. The ſymptoms were ſimilar to thoſe in the caſe of W. P. The remedies employed were of little, or rather of no ſervice. The other caſe occurred after the death of W. P. and the narration of the caſe led me to believe, that in this inſtance the diſeaſe originated from a pin having got into the trachea. This patient was in a dying ſtate when I ſaw her. Permiſſion to examine the trachea after death could not be obtained in either of theſe caſes. There was evidently, in both, inflammation and ulceration of a peculiar ſpecies in the trachea, differing totally from can-

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cer; and from the very prevalent cuſtom, with the lower claſs of women, of putting pins into their mouths, there is ſome probability that one had ſlipt into the trachea.

In the Medical Muſeum, vol. 2. p. 496, three caſes are related, where extraneous ſubſtances had got into the trachea. The firſt, of a plumb-ſtone, diſcharged from the trachea by a violent cough, excited by the exhibition of a very acrid and ſtimulating remedy. In the ſecond caſe, a pea was expelled by the emetic effect of a large doſe of oil. And a bone was diſ-charged from the trachea in the third caſe, by violent ſneezing, from ſnuffing powder of the lily of the valley into the noſtrils.

STATE OF DISEASES IN LONDON.

Account of Diſeaſes in an Eaſtern Diſtrict of London, from the 20th of May to the 20th of June.

	No. of Caſes.
ACUTE DISEASES.	
Peripneumonia Notha	2
Intermittent Fever	1
Typhus Mitior	4
Scarlatina	1
Ophthalmia	3
Acute Rheumatiſm	2
CHRONIC DISEASES.	
Cough	6
Dyſpnœa	3
Cough and Dyſpnœa	7
Phthiſis Pulmonalis	8
Hæmoptoe	3
Hoarſeneſs	2
Pleurodyne	3
Hydrothorax	2
Aſcites	3
Anaſarca	2
Ophthalmia	1
Cephalalgia	6
Hemicrania	1
Paralyſis	2
Hemiplegia	1
Epiſtaxis	2
Gaſtrodynia	7
Dyſpepſia	6
Vomitus	3
Pyroſis	1
Enterodunia	4
Procidentia Vaginæ	2
Hæmorrhois	3
Diarrhœa	2
Obſtipatio	3
Dyſuria	6
Hyſteria	4
Hypochondriaſis	3
Palpitation of the Heart	2
Tremor	1
Scrofula	4
Herpes	4
Tinea	3
Chronic Rheumatiſm	10
Gout	2
PUERPERAL DISEASES.	
Menorrhagia Lochialis	4
Enureſis	2
Strangurea	3
Maſtrodynia	7
INFANTILE DISEASES.	
Convulſio	2
Ophthalmia	3
Apthæ	3
Herpetic Eruptions	4

A conſiderable change in the ſtate of the weather having taken place ſince the laſt report, the number of diſeaſes depending upon it has been diminiſh-ed; the wind, however, ſtill continuing to blow from the Eaſt and North-eaſt, complaints of the cheſt ſtill continue to harraſs many patients, though the number of recent inſtances is much ſmaller.

Caſes

Caſes of ophthalmia, a diſeaſe particularly noticed in the laſt month, are ſtill numerous; owing, probably, to the ſtate of the weather juſt referred to.

An inſtance of pyroſis having preſented itſelf, and it being a diſeaſe of rare occurrence, we embrace the opportunity of taking ſome notice of it. This diſeaſe, though in ſome of its ſymptoms it bears near reſemblance to other morbid affections of the ſtomach, as dyſpepſia, gaſtrodynia, cardialgia, is particularly charaterized by the frequent eructation of a watery, inſipid fluid, on which account it is diſtinguiſhed in Scotland by the name of water-braſh. This eructation is generally preceded by pain in the region of the organ, accompanied with a ſenſe of ſtricture, which has occaſioned its being ranked by noſologiſts amongſt ſpaſmodic diſeaſes. This complaint in ſome inſtances returns periodically, and generally in the morning or forenoon, when the ſtomach is empty. The patient complains of pain, attended with a ſenſe of heat, ſimilar to what is called the heart-burn; the ſtomach is ſuddenly provoked to throw up its contents, and a thin watery fluid is diſcharged.

It has been obſerved, that this diſeaſe more frequently attacks the female than the male, and that a ſtate of pregnancy renders the patient more liable to the attack. It iscommonly found amongſt the lower claſſes of ſociety, and has been attributed to a farinaceous diet. In the inſtance referred to in the liſt, there were ſymptoms of too liberal a uſe of ſpirituous liquors.

As the pathology of the diſeaſe is not very well underſtood, ſo the propereſt mode of treatment has not been aſcertained.

The ſymptoms are palliated by the uſe of opium, conſiderable effects been attributed to the nux vomica; and it has been aſſerted, that the chewing of tobacco has proved beneficial.

Diſeaſes admitted as In and Out Patients of the Phyſicians of the Weſtminſter Hoſpital, between the 20th of May and the 20th of June.

	No. of Caſes.		No. of Caſes.
Fever	13	Eryſipelas	4
Ague	2	Hæmoptoe	1
Amenorrhœa	9	Hæmorrhois	2
Anaſarca	2	Hypochondriaſis	1
Aſcites	2	Hyſteria	1
Aſthenia	4	Hydrocephalus	1
Aſthma	2	Impetigo	2
Catarrh	2	Itch	7
Colic	1	Lepra Græcorum	1
Cough	20	Leucorrhœa	4
Cephalœa	2	Menorrhagia	2
Diarrhœa	4	Phthiſis	1
Dyſpepſia	3	Paralyſis	2
Enterodynia	3	Pleuriſy	4

	No. of Caſes.		No. of Caſes.
Podagra	1	Urticaria	2
Rheumatiſm	11	Vertigo	3
Struma	2	Vomiting	2
Tinea	2	Worms	3

Fevers and pulmonic affections have become more frequent in this part of the town, during the laſt month, than in any preceding part of the ſpring. The fever prevalent at preſent differs conſiderably from the typhus of the cold months; and [illegible] already to be modified by the ſtate of the bile.

T. B.

Liſt of Diſeaſes from the 20th of May to the 20th of June; being the Reſult of the Public and Private Practice of a Phyſician at the Weſt End of the Town.

ACUTE DISEASES.	No. of Caſes.
Meaſles	11
Hooping-cough	3
Scarlatina	2
Catarrh	8
Acute Rheumatiſm	6
Inflammatory Sore-throat	4
Pneumonic Inflammation	4
Peritoneal Inflammation	3
Volvulus	1
Opthalmia	3
Eryſipelas	2
Synochus, or Summer Fever	6
Contagious malignant Fever	6
Apoplexy	2
Epiſtaxis	3
Hæmoptoe	4
Hæmatemeſis	2
Inteſtinal Hæmorrhagy	2
Renal Hæmorrhagy	2
Tertian	1
Hectica	3
Child-bed and Milk Fevers	3
Acute Diſeaſes of Infants	12
CHRONIC DISEASES.	
Aſthenia	43
Cough and Dyſpnœa	31
Chronic Rheumatiſm	20
Lumbago and Sciatica	7
Pleurodyne	4
Pulmonary Conſumption	12
Cephalœa	6

	No. of Caſes.
Epilepſy	2
Chorea	1
Paralyſis	2
Dyſpepſia	11
Gaſtroydynia	7
Enterodynia	5
Billious vomiting and Diarrhœa	12
Jaundice	3
Chloroſis	4
Menorrhagia	8
Abortion	3
Amenorrhea	4
Fluor Albus	3
Emanſio	2
Scirrhus Uteri	1
Scirrhus of the Liver	2
Dropſy	3
Scrofula	6
Tabes Meſenterica	4
Hydrocephalus	1
Worms	3
Hæmorrhoids	2
Prolapſus Ani	1
Scaly Tetter	4
Nettle-raſh	1
Pompholyx	1
Impetigo	3
Ecthyma	2
Itch and Gratelle	12
Gutta Roſaccea	4
Porrigo	3

The ſeries of incongruous complaints ſtated in the above liſt, is an uſual effect, in our climate, of hot ſun-ſhine, ſtruggling with the piercing eaſt and north-eaſt winds, which moſtly prevail from the commencement of ſpring,

till

till the ſummer ſolſtice. Indeed the diſeaſes of winter, ſpring, and ſummer, ſeem to have been crouded together within the laſt ſix weeks; and muſt have fully enabled the faculty to meet the payment of the income-tax.

Among *contagious epidemic* diſorders, the meaſles have lately taken the lead; but from an inſpection of the liſt it will appear, that *inflammatory* and *hæmorrhagic* complaints formed the moſt extenſive ſet of acute diſeaſes; the latter ſeries being particularly violent and obſtinate, and in many inſtances fatal. Thus far we can ſympathize in this peaceful iſland: with the unhappy ſufferers on the plains of Italy and France; but as the above ſtated diſeaſes of our fellow-citizens will probably be terminated by the *aſthenic languor* of July: ſo we will hope, that the *almoſt paralytic aſthenia* of our enemies may prevent the further effuſions of blood on the continent, and be the means of reſtoring health, peace, and happineſs, to all the nations of Europe.

R. W.

On the Means of deſtroying the Virus of Ulcers, and Contagious Miaſmata.

[Extracted from Dr. ROLLO's "Treatiſe on the Diabetes Mellitus;" and the "Annales de Chemie," No. 86 and 87.]

IN our preceding Number we gave a plate repreſenting the apparatus for applying gaſes, or factitious air, to wounds, which was properly deſigned for the preſent Number; but from accidental miſtake of the engraver, as well as thoſe who ſuperintend the ſtitching, this plate has been miſplaced. At preſent, therefore, we ſhall ſupply the explanation before omitted, and accompany it with a conciſe account of this improvement.

Cit. GUITON introduces this intereſting memoir, in the 86th Number of the "Annales de Chimie," with the following liberal remark: "the manner in which Dr. ROLLO treats this ſubject, makes it a branch of that extenſive and hitherto unexplored ſcience, animal chemiſtry; and affords us new hopes (as Dr. Rollo obſerves) of ſeeing the reſources of medicine and ſurgery increaſed, by a practical application of the doctrine of pneumatic chemiſtry.

"Dr. Rollo examines the action of morbid matter on wounds. Independent of the ulcers which uſually follow eryſipelas, and of thoſe which are known by the name of hoſpital ulcers, he believes he has obſerved a particular ſpecies proceeding from a deleterious germ which attaches to a part of the wound; which, like other poiſons, poſſeſſes the property of *aſſimilation*, increaſing by its own progreſſive virulence; but which does not affect other ulcers of a ſpecific character, ſuch as the venereal, ſcrophulous, and variolous.

"Dr.

"Dr. Rollo has endeavoured to destroy this morbid poison by chemical means, locally applied; for this purpose he made use of the oxygenated muriatic acid, the nitrates of silver and mercury, and the oxygenated muriatic acid gas. The manner of applying these substances is as follows: —the wound ought first to be washed with luke-warm water; immediately after which the ulcerated part should be touched with the nitrat of silver; the wound then must be moistened with a solution of the nitrat of mercury diluted with water, or a mixture of oxygenated muriatic acid and distilled water; after which the [illegible] is to be covered with linen dipped in one or the other of these liquids. The oxygenated muriatic gas is immediately directed to the ulcer, and the diluted solution of the nitrat of mercury is, as before prescribed, applied to the wound. By this treatment the wound soon becomes cicatrized:—this experiment has failed only in cases where the ulceration was so extensive that it could not be entirely covered with the nitrat of silver, or the oxygenated muriatic acid gas.

"One of these ulcers, after having been dusted with a considerable quantity of the nitrate of silver reduced to a fine powder, appeared to be in an excellent condition, twelve hours after this dressing; it was firm, and apparently much revived; an effect which must have been produced by the sulphurated hydrogen gas acting on the surface of the ulcer."

Dr. Rollo gives an account of some experiments published by Dr. Crawford, in the 80th volume of the "*Philosophical Transactions*," on the *matter of cancer*; and expresses his regret, that this valuable paper is not more generally known: as, says he, "*there can be little doubt of chemical changes and combinations being produced on sores.*" Dr. Rollo farther observes, "that this subject has not been carried on, since then, as it ought to have been; trusting it will gradually appear of great importance, especially as the discovery of the changes the discharge of a sore undergoes, will probably point out, at the same time, the remedy for the sore."—*A Treatise on the Diabetes Mellitus*: Edit. first. Vol. II. p. 268.

Before, however, we can proceed to give the result of Dr. Crawford's ingenious experiments, together with the opinions of this eminent medical philosopher, we shall previously furnish the reader with a concise explanation of the plate mentioned in the beginning of this paper, and which has been misplaced to our preceding Number.

Description of the Plate affixed to No. IV.

A, (Fig. 3) is a glass bottle, or decanter, designed to contain the materials necessary to produce the gas. B, a vial, or small flask, intended to contain the acid, and which allows it to pass, at pleasure, into the decanter A, by means of the cock C.

D, is

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D, is a glaſs tube which ſerves to conduct the gas, and to the extremity of which, marked E, a bladder muſt be fixed. Of the ſmaller ſpherical glaſs veſſel, with a ſtraight and curvated tube, we find no explanation in the "*Annales de Chimie*;" and although it is there ſtated, that Mr. Blades, of Ludgate-Hill, London, ſells this apparatus, yet, upon application at the warehouſe we learnt, that the latter veſſel does not form a part of his contrivance.

The bladder is used only, when the gas is to be applied for a certain length of time, and in order to keep it uniformly diſtended with facility, by renewing the effervescence as occaſion may require. As to the oxygenated muriatic acid gas, its effect is very quick, or almoſt inſtantaneous, ſo that it is only neceſſary to apply the orifice of the tube to the wound, for a few ſeconds.

Dr. Crawford concludes his experimental inquiry into the nature of cancerous matter, with the following important obſervations:

"It appears from the experiments which have been recited, that in cancerous and other malignant ulcers, the animal fibres undergo nearly the ſame changes which are produced in them by deſtructive diſtillation. The purulent matter prepared for the purpoſe of healing the ulcer is, in ſuch caſes, mixed with animal air and volatile alkali. The compound formed by the union of theſe ſubſtances, which may perhaps not improperly be termed hepatiſed ammonia, decompoſes metallic ſalts, and acts upon metals; for we have ſeen that when it was placed in a jar over mercury for ſeveral days, the ſurface of the mercury acquired a black colour, and that it inſtantly occaſioned a dark precipitate in a ſolution of nitrated ſilver. Theſe facts ſeem to afford an explanation of the changes produced in metallic ſalts, when they are applied to malignant ulcers. The volatile alkali combines with the acid of the metallic ſalt, and the animal hepatic air revives the metal, either by imparting to it the inflammable principle, or by uniting with the pure air which the ſalt is ſuppoſed to contain. The metal, thus revived, is probably in ſome caſes again corroded by the hepatiſed ammonia, which communicates to it a black colour. Thus we may account for the dark incruſtation frequently formed upon the tongue and internal fauces, when venereal ulcers of the throat are waſhed with a ſolution of corroſive ſublimate. And hence alſo the dark tinge which is frequently communicated by ill-conditioned ulcers to poultices made with a ſolution of ſugar of lead. The action of the hepatiſed ammonia likewiſe explains the reaſon why the probes are frequently corroded when they are introduced into ſinuous ulcers, or applied to the ſurfaces of carious bones. To the ſame cauſe it is probably

probably owing, that polished metallic vessels are quickly tarnished when they are exposed to the effluvia of putrid animal substances.

"From the foregoing experiments it moreover appears, that animal hepatic air imparts to the fat of animals recently killed a green colour; that it renders the muscular fibres soft and flaccid, and increases the tendency to putrefaction. It is therefore a septic principle; and hence it is extremely probable, that the compound of this fluid with volatile alkali, which is found in the matter discharged by the open cancer, produces deleterious effects: for although the mischief in cancerous ulcers seems principally to depend on a morbid action of the vessels, whence the unhealthy state of the matter discharged by such ulcers is supposed to derive its origin, yet, from the corrosion of the larger blood-vessels, and the obstruction in the contiguous glands, there can be little doubt that this matter aggravates the disease. The experiments recited above appear to prove, that the hepatised ammonia is the ingredient which communicates to the cancerous matter its putrid smell, its greater thinness, and in a word, all the peculiar properties by which it differs from healthy pus.

"From these considerations it was inferred, that a medicine which would decompose the hepatised ammonia, and destroy the fetor of the animal hepatic air, without at the same time increasing the morbid action of the vessels, would be productive of salutary effects. The nitrous acid does not destroy the fetor of hepatic air, unless it be highly concentrated; and in this state it is well known that it speedily corrodes animal substances. But the fetor of hepatic air quickly disappears when it is mixed with the dephlogisticated marine acid, even though the latter be so much diluted with water to render it a very mild application. I have found that this acid, diluted with thrice its weight of water, gives but little pain when it is applied to ulcers that are not very irritable; and in several cases of cancer it appeared to correct the fetor, and to produce a thicker and more healthy pus. It is proper, however, to remark, that other cases occurred in which it did not seem to be attended with the same salutary effects. Indeed some cancerous ulcers are so extremely irritable, that applications which are at all of a stimulating nature, cannot be ventured upon with safety. And hence, if the observations which I have made on the efficacy of this acid as an external application, should be confirmed by future experience, it must be left to the judgment of the surgeon to determine both the degree of its dilution, and the cases in which it may be employed with advantage.

"The dephlogisticated marine acid, as is generally known, has the power of destroying the colour, the smell, and perhaps the taste, of the greater part of animal and vegetable substances. We have seen that it corrects the fetor of putrid flesh. And I have found, that when it is poured in sufficient quantity

tity upon hemlock and opium, these narcotics speedily lose their sensible qualities. As it appears, therefore, to possess the power of correcting the vegetable, and probably many of the animal poisons, it seemed not unlikely, that it might be useful as an internal medicine. Conceiving that its exhibition would be perfectly safe, I once took 20 drops of it, diluted with water. I soon afterwards, however, felt an obtuse pain, with a sense of constriction in my stomach and bowels. This uneasiness, notwithstanding the use of emetics and laxatives, lasted for several days, and was at length removed by drinking water impregnated with sulphureous hepatic air. I afterwards found that the manganese, which had been used in the distillation of the acid, contained a small portion of lead.

"Dr. INGENHOUZ informed me, that a Dutchman of his acquaintance, some time ago, drank a considerable quantity of the dephlogisticated marine acid: the effects which it produced were so extremely violent, that he narrowly escaped with his life. If, therefore, this acid should hereafter be employed as an internal medicine, it would be necessary to prepare it by means of manganese that has been previously separated, by a chemical process, from the lead and the other metals with which that substance is usually contaminated."

This quotation has induced Dr. ROLLO to observe, that at his request, Mr. CRUIKSHANK made some experiments on the matter of this sore, and that the following account contains the result, with his remarks, as communicated to us in April 1795.

"The matter of this sore is sparingly soluble in water, but readily diffused through it, producing a milky appearance. Pure volatile alkali first reduces it to a transparent jelly, and after some time dissolves the greatest part; a similar effect is produced on pure pus. These solutions are but partially precipitated by acids, particularly the sulphuric. The tincture of litmus, and of Brazil wood are not changed by this matter; it does not therefore possess either acid or alkaline properties. If to the filtered solution of this matter in distilled water, a little nitrated silver be added, a whitish-coloured precipitate will be produced. Similar precipitates, but much more copious, are occasioned by nitrated and muriated mercury. When pure pus is treated in the same manner, these precipitates, particularly that by muriated mercury, have somewhat of a different appearance, which it would be difficult to describe. The fetid smell is somewhat changed by lime-water, but not destroyed; the sulphuric acid rather increases it; a similar effect is produced by alcohol, and by the alkaline solution of arsenic. A decoction of the Peruvian bark does not destroy the fetor. This, however, is effected by the nitrates and muriates of mercury, by the nitrous acid; but most completely by the oxygenated muriatic acid, and gas. Nitrated silver produces very little change either on its colour or smell, a circumstance the more remarkable, as this salt possesses the

 property

property of destroying most offensive smells, even that of the matter of cancer.

"It must be allowed that the offensive smell of the matter of this sore is produced by that part of the discharge which is altered from the nature of pure pus; for we know that every ill-conditioned discharge has more or less smell, while good pus has none. It is a known fact in chemistry, admitting of few exceptions, that a substance cannot have its smell totally destroyed or altered, without having its properties changed at the same time. If therefore this peculiar matter, by the addition of nitrated or muriated mercury, the oxygenated muriatic acid, &c. should have its smell completely destroyed, there is every reason to believe that its peculiar properties also will be so; and should it be capable in its original state of producing an ill-conditioned action in sores, the addition of such substances might prevent this mischief. If it should be supposed therefore that an acrid matter somehow produced on the surface of sores, were capable of inducing ulceration of a specific kind, and that this ulceration, like the venereal, should generate more matter of a nature similar to itself, capable of extending the mischief, and even of bringing on a general affection of the system, some important conclusions might be drawn from these experiments.

"1st. It is easy to see, that a sore once clean, might be preserved from the effects of the matter alluded to, by washing it at every dressing with a weak solution of nitrated mercury, or the oxygenated muriatic acid, and that even the generation of such matter might be entirely prevented by the same means.

"2d. After the action has taken place, and before a general disposition is formed, it might be possible to put a stop to its progress by very active topical applications, such as should be capable not only of destroying the specific nature of the matter generated, but also the action itself. From the experiments already related, it is evident we would prefer in this case, the most active mercurial preparations, such as red precipitate not entirely deprived of its acid, or the muriated mercury; and if an actual caustic were to be employed, we should have recourse to the strong nitrous acid, applied in Mr. Humpage's method, rather than the nitrated silver, especially as it may have also the effect of changing the nature of the discharge; this consists in dipping a little lint in the acid, and applying it to the part: it communicates less pain than any other caustic, except the nitrate of silver.

"With regard to the action of the different substances on sores, and as caustics, they may be thus arranged:

"1st. Substances exciting action, and producing death, in parts, by the excess of that action; as arsenic, and muriated mercury.

"2d. Substances acting simply by burning or destroying the part, and whose actions are always limited; as, nitrated silver, nitrated mercury, and nitrous acid.

"3d.

"3d. Subſtances acting by diſſolving the part, and whoſe action is ſo diffuſive that it is difficultly limited; as, common cauſtic, or the mixture of potaſh and lime.

"4th. Subſtances acting chemically on the part by decompoſition; as, oxygenated muriatic acid, in the form of gas, or combined with water.

"On the whole, though we have ſuppoſed the formation of a new morbid poiſon, on the ſurface of certain ſores, under peculiar circumſtances or management, yet we are rather inclined to change the appellation *new*, to a poiſon which has been probably *overlooked*. We have ſeen the commencing ulceration remain ſome days ſtationary; we have ſeen it extending, while the other parts of the former ſore were cicatriſing, and the conſtitutional effects not taking place until the ulceration had occupied a large part of the ſore; and we have ſeen that the painful ſtate and extreme ſenſibility did not occur until the ſyſtem was affected. Therefore it may be preſumed the early ulceration has been unattended to, and the ſtate of the ſore remarked only by authors after it had aſſumed the appearance of phagedæna. For when the ulceration had ſo ſpread as to produce the conſtitutional affection, and the conſequent rapid changes on the ſore, the character of the virulent ſore deſcribed as phagedæna was formed.

"The account we have given of this ſore may excite more attention to the ſtate of a large ſore in an hoſpital with a conſiderable diſcharge, and lead to a trial of the applications pointed out; to forward cicitriſation, and prevent any untoward changes from the production of a poiſon on the ſurface of the ſore.

"Since the attention and manner of treating ſores as deſcribed, have been purſued in this hoſpital, we have had none ſuch, nor even the hoſpital-ſore; indeed this we cannot poſſibly have, as ventillation and the deſtruction of general contagion are ſo carefully and unremittingly performed. We have had, however, three very remarkable ſores following bubo in the groin, and chancre on the penis, which terminated fatally. Theſe caſes occurred before the adoption of the new remedies, and were treated by mercury, and appeared to be the effect of the mercurial diſeaſe on a peculiar conſtitution. The ſores were irritable and ſloughing, and the only favourable changes were produced by the uſe of opium, the hepatiſed ammonia, and the application to the ſores of the hydrogenous, hepatic, and carbonic acid gaſes.

"The ſore which has been deſcribed and noticed by us at the beginning of this account as peculiar to hoſpitals, though well marked by many, yet we have our doubts, but that many of theſe were this peculiar ſore and owing to the poiſon we have ſuggeſted. Whatever it may be, it adds another fact in corroboration of the advantages both medicine and ſurgery are likely to derive from the new doctrines of chemiſtry.

 "We

"We have already seen the utility of substances readily parting with their oxygen, applied to irritable sores, and also of the hydrogenous, hepatic, and carbonic acid gases to irritable sores. See Vol. I. p. 62, and which was contained in the Notes of the first cases of Diabetes, dispersed in January last. In p. 61 of the same volume, it is observed that the oxygenated muriatic gas was found to destroy the offensive smell of sores, that it destroyed specific contagion, and could be easily obtained, and very safely used. We had, therefore, given it in preference to other things, and in order that it may be more generally tried, we insert Mr. Cruikshank's manner of procuring and using it in the wards of this hospital.

"This consists in intimately mixing two parts of common salt, and one of crystallised manganese, previously reduced to powder. Two ounces of this compound are introduced into a small bason; about an ounce of water is then added, and afterwards an ounce and an half of the concentrated vitriolic or sulphuric acid at different times, so as to preserve a gradual discharge of the oxygenated muriatic acid gas. One of these basons is sufficient for a ward or room, containing five or six beds, and more must be employed according to the size of the apartment."

Historical Inquiry into the State of Medicine among the Hebrews: being an Inaugural Dissertation maintained by MEYER LEWIN, *under the Presidency of Professor* CURTIUS SPRENGEL, *on the 19th November, 1798, in the University of* HALLE.

SEVERAL authors have attempted to give an account of the history of medicine among the Hebrews; but they in general attended more to inquiries relative to diseases mentioned in Sacred History, than to the history of the art itself. Few documents are to be found, which relate to the medicine of the Hebrews; in those histories of medicine by REY, FRIEND, and BLACK; or even in Professor SPRENGEL's general history of this science; some articles are scattered in this chapter on the medicine of the Egyptians, and in that on the medicine of the Eastern nation.

The sects of Platonists, and of Paracelsus, have, according to our author, derived their origin from Judaism; and the Hebrews have always adopted the manners and customs of other nations, notwithstanding the prohibitions laid on the people of Israel, against imitating the manners of the barbarians.

According to the doctrine of the Patriarchs, both good and evil came from GOD; invocation, or submission, were regarded as the only means of extirpating diseases. When the Hebrews were in Egypt, they found their established principles of medicine. By the order of Joseph, the Egyptian physicians embalmed the body of Jacob. Moses, who was acquainted with all the

the learning of the Egyptians, inserted that art in his code of medical and dietetic laws; he described the white leprosy with great exactness: he also appears to have made use of their superstitious recipes, by the erection of the brazen serpent. Already had he suppressed the Egyptian magicians, by prodigies more wonderful than theirs.

The tribe of Levi, at length assumed the practice of physic; the prophet attributed epidemic diseases to heavenly wrath. The Philistines, afflicted with leprous tumours, could not be cured till after the restitution of the ark. Even the sound of the harp of David, could allay the ravings of the maniac Saul. The science of Solomon, who was perhaps instructed by the Phenecians, or the Arabs, was extended still further. He was celebrated for his knowledge of plants and animals; and he also composed a treatise on the cure of diseases, which was suppressed by Ezekias, lest the sacred remedies which made the sacrifices of the tribe of Levi more praise-worthy, should be abandoned for other remedies. Solomon, also, if we may believe his writings, had the gift of assuaging diseases by incantation, and of driving out devils by exorcism, a practice which remained till the time of Josephus the historian. The prophets then assumed the practice of physic. The hand of Jeroboam was cured by a prophet, whom he had offended, and Elias restored the son of the widow of Zarpatha. Elisha recovered the son of a Shunamite, and Naman cured a Syrian chief of the leprosy, by ordering him to be immersed in the river Jordan; Isaiah also restored Ezekias to life, by applying to his tumours a cataplasm of figs. About the year 640, before the Christian era, the Hebrews were dispersed in Medea and Assyria, and submitted to the king of Babylon. This was the epoch in which the religion of ZERDUSCH or ZOROASTER, began to spread. The exiled Hebrews combined many of his dogmas with those of their religion; this gave rise to the Kabbale, a sort of Eastern philosophy, which the Alexandrians at length combined with the superstitions of the Greeks. It was now that medicine began to assume another form. Among the good Genii, was one who watched over health; one of these was called Boete, he caused diseases; another named MAZDEJESNOIS, was empowered to try remedies on the people who were under the influence of the Dews, or evil demons.

During the reign of Cyrus, who subdued the kingdom of Babylon, the Greeks were enabled to learn the doctrine of Zoroaster, and appropriate it to their own uses. But this theory was not entirely derived from Zoroaster; it owed its origin to a more ancient prophet, named Ham; the author of this philosophy having collected its principals from among the Indians and Bramins; this account is affirmed by Professor Sprengel, not according to the futile arguments of WILFORD, or the ridiculous and contemptible calculations of JONES and KLEUKER, but from venerable monuments,

numents, from books which surpass in antiquity any which we possess, and from the most exact astronomical calculations. The analogy of the system of the Bramins to that of Zoroaster, and the perspicuity which it has given to their ideas, clearly prove that it has passed from India to Media, and that it was not transported by Zoroaster and his disciples to the banks of the Indus. It teaches us that God is eternal, that he produced, before the most distant ages, three persons or substances, united in one; that is to say, earth, water, and fire, from which the whole army of angels (*dewta*) were created. The Indians reckon seven worlds, which are under the influence of either the good or evil principle: they adore the Sun, as being the symbol of good emanations; man, born on the good principle, if the soul be considered, but on the bad principle, as to what relates to the body, is enclosed in his own body that he may suffer pain; and when this body has undergone sufficient chastisement, the man becomes more pure, and approaches nearer to perfection. The Samaritans who, in a life of solitude and retirement, incessantly contemplating the Deity, abstained from the use of flesh. Such, in ancient times, were the true Indian Physicians.

This Oriental doctrine was transplanted into Media by Zoroaster, and from thence, in the time of Cyrus to Persia, where the exiled Jews, who were without temples and sacrifices, adopted an austere and contemplative life: thence it was, that Magasthenes, who lived in the time of Seleucus Nicator, has confounded the religion of the Indians with that of the Hebrews.

Amongst the principal tenets which the Hebrews have derived from Babylon, is that of the immortality of the soul; of which they do not appear to have had any previous information, and of which the first traces are to be found in the subsequent apocryphal books of Daniel; hence originated their belief in the power of angels and demons, to produce or cure diseases.

At this period it was again necessary to resume the occult doctrine of the *mystic word of God* which is regarded as a personal illumination: this dogma arose from the philosophy of Zoroaster, and was thence introduced into the Jewish schools.

The Hebrew people, by their repeated captivity, had lost the knowledge of their primitive language, and could no longer read their laws in the Hebrew tongue. By order of Esdras, a Chaldaic paraphrase was corrected for the purpose of being read in the synagogue. Thus it appears that Esdras was the first who introduced the use of the Chaldaic language. At this period, Manasses, chief of the sect of Samaritans, erected a temple upon Mount Garizim, in which he established a religion of the knowledge of which we have been almost deprived by the lapse of time: this was the

the origin of the Essians and Samaritans. The jews who, in the reign of JEREMIAH, had fled into Egypt, as well as those who were led thither by ARTAXERXES III. and PTOLEMY LAGUS, had a greater partiality for the philosophic doctrine of the Greeks of Alexandria than for the degenerated system of the platonists; the sophistry of the Alexandrians, their love of paradox, and their taste for divinity, were similar to their Oriental philosophy.

The latter sect derived its name from a Syrian word, which signifies *saint*: its first origin is discovered to have been in the time of JUDAS MACCABEUS. It is supposed, that the Essians of Syria, and those of Egypt, differed greatly in their opinions: the former followed more particularly the Eastern philosophy, and the latter that of Alexandria. These last were nominated *Therapeutians*, because they led a life of experiment and contemplation.

The Essians made a vow to respect their books as much as the names of angels. PHILO, who calls the second angel the great physician, does not deviate in any considerable degree from the system of the Essians.

This contemplative life of the Essians made a forcible impression on the minds of some, who, possessed by a religious phrenzy, pretended to be deranged in their intellects, until they had obtained what they wished for.—These enthusiasts met together frequently in Egypt: they abandoned their parents, their children, and their property; and lived in villages, assiduously reading the works of the prophets, so that even in their dreams, their imagination presented nothing but divine objects; they prayed twice every day; they never ate till after sun-set, devoting the day to the study of wisdom, the night to the refection, and repose of the body:—their food was only bread, with salt, and hyssop; they religiously set apart the seventh day, when they met together at a frugal banquet, which was spread on leaves of the papyrus.

The author says, in another place, that there were of this sect in Egypt four thousand who never killed any animal, who avoided cities, rejected the arts and sciences, and contemned riches, but inculcated benevolence and hospitality; insomuch that at length their manners became so pure, that the most cruel tyrants could never accuse them of the smallest crime.

The Essians and Syrians adopted principles rather different; according to them the soul, naturally immortal, was created to practice justice. They celebrated their festivals in common temples, and cultivated their fields without the aid of slaves, by mutually assisting each other; they selected the most exemplary for priests, who acted as collectors, and prepared their necessaries; they abstained from oaths, practised sobriety, justice, and the religion of GOD; they were always habited in white, and kept continual silence for a year together, which rendered them similar to the Pythagoreans. They were looked upon as the primitive Christians; it is certain, at least, that

that they were the disciples of Moses, who had collected from the sacred writings of the Greeks, and Orientals, every thing that could excite the mind, and inspire a fanatical enthusiasm.

[Want of room will not permit us to extend the account of this article.]

Facts and Observations relative to the external Application of Opium by Friction, so as to be absorbed by the Lymphatics. By M. WARD, *Surgeon to the Manchester Infirmary.*

IT appears to be not only a professional but a moral duty, to lay before the public, at an early period, improvements in the healing art, which are sufficiently well authenticated, and may be adopted by others, without impropriety or danger in similar cases. On this ground, I trust, the communication of the following facts and observations will be justified: and I am happy in being able to avail myself of the high authority of Mr. POTT; who, in his admirable tract on the mortification of the toes and feet, has thus sanctioned a novel mode of exhibiting opium. "If this was an experiment, in which the life, or limb, or health of the patient, was in any degree endangered, or by which the person on whom it may be tried, could in any degree be injured, I should have withheld what I now publish, until a greater length of time and more experience had rendered it still more absolutely certain; and I should have thought myself vindicable in so doing: but, as this is a medicine whose general effects are well known, and which is at the same time so capable of direction and management, that it is almost impossible for any person who deserves to be trusted with medicine at all to do any material harm with it, I thought it would be wrong and unjust to conceal what had occurred to me, lest I might thereby deprive the afflicted of an assistance which, I verily believe, is not to be obtained from any other quarter."*

May 14, 1799, Mr. G. P. fourteen years of age, became delirious on or about the eleventh day from the commencement of typhus. Musk, opium, &c. were prescribed, both by myself, and afterwards by the advice of Dr. Percival, without his becoming composed or rational; except at intervals. On the contrary, the delirium increased till the seventeenth or eighteenth day, when he became extremely restless and turbulent, requiring two persons to keep him in bed. He continued in this state, till the evening of the twentieth or twenty-first day, when he seemed nearly exhausted. His feet were cold, his pulse weak and irregular, and he discharged his urine and stools involuntarily.

He

* Earle's edition of Pott's Works, Vol. 3, p. 364.

He had taken 5½ grains of opium, 54 of musk, and the same of volatile salt in the last 48 hours: but could not now retain them on his stomach.

Not having an opportunity of consulting with Dr. Percival at that time, and not supposing it possible for our patient to live more than an hour or two unless a speedy change could be effected; I directed six grains of opium, very finely powdered, to be mixed with an ounce of lard, and to be divided into two equal parts: one of them to be rubbed on the inside of one leg, and the top of the foot, directly; and the other on the other leg and foot, in two or three hours afterwards. This practice was suggested to me, by an extract of a letter I had just met with, in Duncan's Annals of Medicine for 1798, from Vin. Chiarugi, Physician to the hospital of St. Boniface, at Florence, to Dr. L. Frank, on the effects of opium applied externally, in maniacal delirium, &c. This method of applying opium, was first proposed, I believe, by Dr. Chiarenti, of Florence.

It occurred to me, that as it had produced calmness and sleep in the instance mentioned by Dr. Chiarugi, it might probably have the same effect in a delirium arising from fever: and seeing our patient in so hopeless a state, I was the more anxious to try it on that account.

May 15. At ten A. M. I was surprized to find the patient better, and in a quiet comfortable sleep; and was informed that the attendants expected every gasp would have been his last, till four o'clock, (six hours after the first portion of ointment was rubbed in) when he became a little calmer, and grew gradually more so till eight; he then began to dose, and at nine fell into an easy sleep. Dr. P. and I visited him at twelve, and were pleased and surprised to find him still asleep.

At ten P. M. he was perfectly composed, and had slept from the time I last saw him till half past four, when he awoke, said he was hungry, and asked for some bread and butter, and tea: he then expressed a wish to have his bed made, sat up ten minutes, and ate an orange: and when removed to bed, fell asleep directly, and slept till eight; when he seemed uneasy, and had a slight return of the delirium. Six grains of opium were now rubbed in on one thigh, agreeably to the directions we had given. When the friction had been continued half an hour, he desired the nurse to desist, and fell asleep immediately. His pulse, which had hitherto varied from 100 to 120 was now only 80, but stronger.

May 16. At 5 A. M. Mr. P. came to tell me, his son had slept well till two; but was now restless and uneasy, and that he had used the last portion of the ointment.

Eight grains of opium, mixed with three drachms of lard, were directed to be rubbed in immediately.

Ten A. M. I was informed he could not bear the friction longer than eight

eight or ten minutes. He was now reſtleſs but not delirious; pulſe ſcarcely perceptible. Wine was preſcribed. At twelve, Dr. P. found him in the ſame ſtate, and preſcribed tinct. opii. gr. xv. 4tâ quaq. hora. At ten, P. M. he was eaſy and rational; but had not ſlept much; pulſe 92, tongue much cleaner; ſkin cold. Nine grains of opium, mixed with three drachms of lard, were now ordered to be applied, and the ſame quantity to be repeated in four hours, unleſs he became compoſed.

May 17, twelve o'clock. The firſt portion of ointment only was applied; and he ſoon grew tired of the friction, ſo that very little could have been abſorbed. I was aware of this being likely to happen, and therefore had ordered an increaſed quantity of opium. He was now calm and rational; but had not ſlept well. Pulſe 100. Omit. ung.—Contin. tinct. opii. At eight, P. M. pulſe 96; quite eaſy. Contin. tinct. opii.

May 18. Slept well laſt night; appetite improved; tongue clean; pulſe 96, regular, and ſomewhat ſtronger.

May 20th. Sleeps well, and improves rapidly.

The quantity of opium applied externally was 35 grains, and this was rubbed on the legs and thighs, in the courſe of the lymphatics, at ſix different times in forty-eight hours; not in equal proportions, or at regular intervals; but whenever he began to grow uneaſy.

The opium was powdered exceedingly fine.

This hiſtory I communicated to Dr. Percival; from whom I have ſince received the following caſes and remarks; which I ſhall deliver in his own words.

" The narrative you read to me this morning, I believe to be perfectly accurate; and I now ſend, agreeable to your requeſt, a brief ſtatement of the two caſes I mentioned to you, in which opium was externally applied with much apparent benefit.

" You have juſt claim to this communication; becauſe it was from my being in ſome degree perſuaded of the ſucceſs of the practice you purſued in the inſtance of our patient, Mr. P. jun. that I was induced to adopt the ſame mode of treatment.

" May 16, 1799. I was called to viſit Mrs. ———, a lady about forty-ſix years of age, ſubject to epileptic fits, to anomalous gout, and to temporary mental derangement. I found her in a ſtate of high delirium, without fever. Having remarked that, under ſimilar circumſtances, the internal exhibition of laudanum aggravated the affection of her head, probably by producing inebriation, I regarded this as a peculiarly favourable opportunity of trying the uſe of opium externally. I therefore directed three drachms of laudanum to be mixed with an equal quantity of olive oil, by the yolk of an egg, and to be diligently rubbed into the legs. The

friction

friction was soothing and grateful to her; and, in a few hours, she was observed to become considerably calmer. The like inunction was repeated at night.

"May 17. I found her perfectly composed and rational. She had enjoyed much refreshing sleep. Her pulse was regular, her heat natural, and a gentle perspiration had taken place soon after the first inunction.

"The same plan was continued.

"May 18. She remained perfectly composed and rational. During the space of forty-eight hours, the inunction had been four times renewed. It was performed with due diligence and care; and the hand of the servant who rubbed in the liniment was covered with a smooth bladder.

"What proportion of the twelve drachms of laudanum, thus consumed, may be supposed to have been conveyed by absorption into the system?

"May 17, 1799. Mr. ———, a gentleman between thirty and forty years of age, of a delicate make, had been confined by low fever more than a week. Last night a delirium occurred, which progressively increased in violence; so that this morning I found him in a state of maniacal fury, yet with a languid pulse.

"A bolus of musk, volatile salt and opium, was prescribed. But the patient loudly and peremptorily refused not only medicine, but all sustenance. It became necessary to confine him by a strait waistcoat; and I directed his feet and legs to be well fomented. Three drachms of laudanum, mixed with a like proportion of olive oil, were afterwards rubbed into them. Within the space of five or six hours he grew more calm; and was prevailed upon to take nearly two glasses of wine.

"A repetition of the inunction was directed.

"May 18. The patient was in a state of tolerable composure. He had taken both wine and nutriment. The inunction had been thrice renewed; but, as it had not produced much sleep, I directed fifteen drops of laudanum to be administered every four or five hours, in coffee, of which he said he was fond of, and which conceals the taste of opium better than any other vehicle. The inunction was discontinued.

"May 19. The patient had enjoyed sound and refreshing sleep; and awoke in the morning almost perfectly rational, with a considerable abatement of every symptom of fever."

Additions to Dr. PERCIVAL'S *Communication.*

"In the introduction of new modes of treatment, it is incumbent on the medical practitioner, to be sedulously cautious, not only that he founds his trials on just analogies, but that he conducts them with impartiality, and records, with faithfulness, their good or ill success.

 "The

" The apparently happy effects of opium in the case of Mr. P. and in the two others which I have just related, led a physician of this town to conceive, that he should derive benefit from its external application, under a severe head-ache. To this malady he is often incident; and when he has recourse to laudanum for its relief, he generally experiences great subsequent nausea, vertigo, and nervous debility. Being attacked with violent pain above the left eye, where the frontal ramus of the nervus opthalmicus spreads itself, he had the whole forehead repeatedly rubbed with the following ointment.

" R. Opii. purif. gr. x. camphor. gr. v.

" Ung. Adipis. Suillæ, unc. ss. M.

" The camphor dissolves the opium, and renders the composition so smooth, as to fit it for absorption.

" At first the unction, which was applied to a sufficiently large surface, the fore part of the head being bald, seemed to sooth and to assuage the pain. But this confortable effect soon ceased: the head-ache continued, increased, and terminated only at the usual period.

" The disappointment in this instance ought not, perhaps, to discourage a further trial of the ointment, at the commencement of my friend's next fit of head-ache. But the remedy is more likely to be successful, if the ointment be carefully rubbed on the inside of the legs and thighs, where the lymphatics are far more numerous than on any part of the head. This distribution of the absorbents, may give particular efficacy to the anodyne inunction in painful menstruation, to which those females are generally most liable, who suffer extreme faintness, languor, and sickness, from taking opium in the usual forms of its exhibition. And in the mortification of the toes, described by Mr. Pott, the same application is highly worthy of a trial, in conjunction with the internal use of laudanum: for, as opium appears to possess, in some degree, a specific action in this disease, the more fully the system can be imbrued with it, without producing stupor, or injuring the energy of the brain, the greater likelihood there must be of arresting the progress of this direful disorder. In a case, about which I was not long since consulted, I observed the gangrene extended itself in streaks up the inside of the leg, along the course of the absorbents. If this method of treatment had then occurred to my mind, I should not have hesitated to recommend its adoption."

Being impressed with the apparently beneficial effects produced by opium applied externally, in three of the instances above related, I felt a strong inclination to adopt the same practice, in a case of chronic rheumatism of seven months continuance, which had not yielded to the usual plans of treatment.

My

My principal view in this trial was, that it might probably prove a substitute for the pulv. ipec. comp. which the patient had tried to wean herself from several times, but in vain, although it had been highly injurious to her general health.

Were this point gained, I was in hopes she would then be able to take a more generous diet, and tonics; without which her recovery could not be expected.—The following is a brief statement of the principal occurrences:

"May 21, 1790, Mary Caldwell, aged 34, was attacked with lumbago and sciatica, in November last; she was much debilitated and emaciated at that time, by a long continuance of menorrhagia. I was called to visit her about three months since, and found her in a very reduced state, having had very little easy sleep for some time. She obtained temporary relief from pulv. ipec. comp. and topical applications, and has continued to take a dose of the powder almost every night, to the present time; not being able to obtain either ease or rest without it. Bark, tincture of guaicum, and calomel in small doses were of no service, and she continued to decline in her general health, being much harrassed with pain and flatulence in her bowels, costiveness, and sickness. Pul. rhei. and kali vitriolatum, were added to the powders, but seemed to hinder their anodyne and sodorific effects. Aperient medicines of different kinds were given; but the relief procured by them was of short duration.

"The powders were ordered to be discontinued, and six grains of opium, mixed with three drachms of lard, to be rubbed on the inside of one thigh for thirty or forty minutes at bed-time.

"May 22. She had not so good a night as she had been accustomed to have after taking thirteen grains of pul. ipec. comp. at bed-time. Twelve grains of opium, mixed with three drachms of lard were ordered to be rubbed on the inside of the other thigh at nine o'clock to-night.

"May 23. She was restless at the beginning of the night, but slept comfortably from one o'clock A. M. till ten. Is better to-day than she has been for some time past; has not been troubled with sickness and flatulence, and has had two easy natural stools; her appetite is improved. Pergat.

"May 24. Slept but indifferently the beginning of the last night; but pretty well afterwards; appetite continues better; has had two stools. Fifteen grains of opium mixed with three drachms of lard, were ordered to be rubbed in to-night an hour sooner than usual.

"May 25. She fell asleep soon after the ointment had been applied, and had a good night. The same plan was ordered to be continued.

"May 28. The pains are not so severe, nor do they continue quite so long when they come on; but she seldom sleeps till towards one o'clock. I desired to see the ointment, and found the opium which had been used on the 25th and since that time, was not powdered sufficiently fine.

"The

"The pained parts were ordered to be rubbed morning and evening, with ſome of the following liniment, and I deſired the friction might be continued fifteen or twenty minutes at a time, that a conſiderable portion of the liniment might be abſorbed, R/. Lin. Sapon. Æther. Tinct. Opii *aa.* unc. i. M. R/. Infus. Cort. Peruv. Vin. Rub. *aa.* unc. vi. Tinct. Lavend. Comp. unc. i. M.—Cap. cochl. iij. larg. ter die.

"June 14. She has walked out twice, and is not worſe.

"The ointment, each portion containing fifteen grains of opium in fine powder, was ordered to be continued."

From the facts above recited, I think I am waranted in drawing the following inferences: 1ſt. That opium, when diligently applied externally, ſo as to be abſorbed by the lymphatics, has powerful effects in allaying irritation, removing ſpaſm, and procuring ſleep. 2dly. That it is capable of producing theſe happy effects, where the exhibition of it internally had not the ſame ſalutary operation. 3dly. That this mode of introducing it into the ſyſtem, may be reſorted to with advantage, when it cannot be given internally, or when it will not ſtay on the ſtomach.

Viewing the ſubject in this light, a wide field ſeems to lie open for inveſtigation, which, if cultivated, may poſſibly lead to important improvements in the practice of medicine.

As opium applied externally, poſſeſſes the peculiar advantages abovementioned; would it not be worth while to try its effects, in this way, in hydrophobia and in tetanus?—Unfortunately the former is juſtly ranked among mortal diſeaſes, and the latter generally proves fatal. Every other mode of treatment having been unſucceſsful, is a ſufficient reaſon for adopting ſome new plan of treatment, provided it have reaſon and probability to recommend it; and opium, on account of its ſoothing antiſpaſmodic properties, ſeems ſtrongly and peculiarly indicated in theſe diſeaſes.

But it may probably be urged, that the modus operandi muſt be the ſame, whether opium be given internally, or applied externally by abſorption; and therefore, as it has not been efficacious when taken by the mouth, we cannot expect it to be ſo when applied externally: but experience, the only true teſt by which to try every hypotheſis, ſeems at variance with this; at leaſt, the facts contained in the caſes above recited, militate as far as their authority extends againſt the idea of the modus operandi being the ſame, the effects produced being ſo different.

Another ſtrong argument in favour of the external application of opium in hydrophobia, is, that ſhould it be found to be poſſeſſed of properties capable of counteracting the effects of the virus, it will be of peculiar advantage, that we can introduce it into the habit by the ſame ſyſtem of veſſels which convey the virus into the circulation; and it is worthy of conſideration,

tion, that should my hopes and expectations of succefs be difappointed, it does not feem probable that any mifchief can be done by this practice, efpecially if I am right in fuppofing the difeafe to belong to the afthenic clafs.

Whether opium applied externally, may or may not prove an antidote to the canine virus, it would, I think, be unpardonable to rely exclufively on thofe plans of treatment, which have been fo often tried, and always without fuccefs.

Whoever may think proper to make trial of this mode of treatment, fhould fee that the powder, if that be preferred to the tincture*, is made as fine as poffible, and that it is rubbed in, in large quantities †, (the difeafe being fo violent and fo rapid in its progrefs) on the infide of the legs and thighs, and alfo on the part where the bite was inflicted in hydrophobia, or a wound in tetanus; repeating it at fhort intervals ‡, till it produces fome fenfible effect on the fyftem in general.

That the other parts of the treatment may coincide, as far as poffible, with the foothing plan here propofed, it will be neceffary to keep patients, labouring under hydrophobia or tetanus as quiet as poffible, and to avoid every thing which can tend to agitate and alarm, excite uneafy fenfations, or bring on a return of the fpafms. In conformity to this intention, inftead of importuning the unfortunate fufferer to fwallow medicines, or liquids, of which he has fo great a dread, glyfters might be given every three or four hours, perhaps with advantage, to fupport the ftrength, confifting of good broth, or milk, with thirty or forty drops of laudanum in each. Should the patient afk for food or drink, warm milk, or jelly, or mulled wine, may be given from a tea-pot fpout; but on no account ought liquids to be brought into his fight, or to be difturbed or agitated within his hearing. For fimilar reafons I fhould think it improper to afk the hydrophobic patient any queftions refpecting the dog or the bite. He fhould be carefully guarded againft the effects of cold (fome patients having expreffed almoft as great an averfion to a ftream of cold air, as to liquids,) by wearing a flannel fhirt next to his fkin, and by wrapping his legs and feet in warm flannel, or putting him on woollen ftockings, and by warming his apartment moderately with a fire or a ftove. If it be neceffary to remove him to an hofpital, or elfewhere,

* Would it not be adviseable, till we know which of thefe preparations is abforbed with the greateft facility, to ufe both, either alternately, or together?

† Not lefs than a drachm of the powder, or an ounce and a half of the tincture, to an adult fubject.

‡ I fhould imagine an hour would be a fufficient length of time, to allow to intervene between the frictions.

elsewhere, after the coming on of the disease, he should be warmly clothed and removed as easily and carefully as possible.

Should experience shew, that the plan here proposed is capable of curing, or even of mitigating the sufferings of this unfortunate class of patients, a most valuable accession to medical knowledge will be gained; but we ought not to be satisfied with a few trials of this practice, I think, should the result be unfavourable.

A singular Case of an Obstruction in the Ureters.

[Communicated by Mr. CHARLES BROWN, Surgeon.]

JOHN WILSON, Esq. a gentleman in the law, had laboured many years under severe fits of the stone, which at intervals were so violent, as to render him insensible. He had frequently passed several small stones, with great pain. Last Monday evening, soon after I had visited him, he was seized with cold shivering fits, a shooting pain in the bladder, extending up the rectum, attended with nausea. Nothing was evacuated from the bladder, except now and then a spoonful of clear limpid liquor, which had neither the smell or taste of urine. He was bled on the morning—took aperient and anodyne medicines during the day—and at night was put into the warm bath. The obstruction continued till Tuesday, about four o'clock P. M. when he became comatus, and died. Having obtained leave, I opened the body, when the following morbid appearances presented to view, viz. the left kidney was considerably less than natural, and was become a thin sac; the ureter belonging to it was very small, and felt hard—when cut open, it was found filled with gravel of a dirty colour, squeezed so close together, that no liquor had probably passed that way for a considerable time. The right kidney was distended with urine to a monstrous size, and the ureter was so large, that it had all the appearance of a portion of intestine. Upon opening it down to the bladder, I found a small stone fixed so firmly between the coats of the bladder, that I had some difficulty to bring it out—it was not above a fourth of an inch from the orifice of the ureter into the bladder. The prostrate gland was diminished in size, and ulcerated; calculous concretions were formed in the urethra; these concretions were submitted by myself to the following experiments:—

Analysis of the Concretions.

A small fragment being put into a drop of marine acid, on a piece of glass, over a candle, was soon dissolved; and upon evaporation of the acid, crystallized in needles, making angles of about 60° and 120° with each other.

Water dropped on the crystals would dissolve no part of them; but in marine acid they would re-dissolve, and might be crystallized.

Vitriolic

...ic acid formed selenite with the calcareous earth.

By acid of nitrated quicksilver, phosphoric acid was readily obtained.

When heated, these concretions decrepitate strongly; they next emit the usual smell of burnt animal substances, and were charmed, but would not become white, though partially fu...

HATTON GARDEN, *May 19th,* 1799. CHARLES BROWN.

To the Editors of the Medical and Physical Journal.

HAVING perused, with great satisfaction, the three first numbers of your Journal, my inclination leads me to send you a case which fell under my observation, in April last: this case, as demonstrative perhaps of the danger of introducing unknown poisons into the human system, may not be unacceptable to some of your readers.

ROCHESTER, *May* 21, 1799. WALTER VAUGHAN.

Mr. CHARLES GREEN, sadler, at Northfleet, a man about thirty-five years old, athletic, and convivial, being desirous of losing some blood, consulted his surgeon, and was assured by him it was improper,—if for no other reason,—because unnecessary. This honest assurance he unluckily did not duly regard: for he applied on the ensuing Sunday to a barber, who, as requested to do, opened a vein *(Vena Mediana.)* The wound of the vein was very large; and the discharge of blood from it was profuse, quick, and difficult to be stopped: when stopped, however, the arm was kept quiet, and no pain was felt in it all the next day ... Tuesday evening. At this time, a pain was felt at the wound particular... but extending from it as high as the middle of the arm. The pain encreasing, Mr. Green soon began to experience some pain of the head, and some confusion of thought, which, together with extreme anxiety, restlessness, shortness of breath, and frequent rigors, made him declare to his wife, his apprehension that his having been bled would presently cost him his life.

His surgeon was sent for, the first time, on Wednesday morning, to whom the sides of the vein did not appear to be united; indeed, they appeared as if they had inflamed and suppurated; and about the middle of the arm, there was a tumour almost as large as a hen's egg, and very tender to the touch. Mr. Green's pulse was found small, quick, and irregular; his skin was very hot; and there was a slight delirium, with slight *subsultus tendinum.* The tongue was dry, and a little discoloured. A cataplasm of bread and milk was accordingly applied to the wound, and to the tumour; a blister was fixed between the shoulders, and a gentle purgative medicine was administered; also mistura camphorata, with æther vitriolicus, was given occasionally. But, notwith-

notwithstanding the blister excited a very considerable discharge, the bowels were soluble, and the perspiration free and general; the symptoms (delirium, and subsultus tendinum especially,) became worse every hour.

I was therefore requested, on Thursday morning, to consult with his surgeon, and to determine whether any thing further could be done. I then gave it as my opinion, that Mr. Green's symptoms proceeded from some morbid poison, I knew not what, unfortunately introduced by the barber's lancet; but of this no direct evidence could be obtained:—the barber, doubtless, supposed his lancet to be clean; and he might, perhaps, have forgotten the immediately preceding time and occasion of using it.

In the first place, the barber might have used the lancet some days, or some weeks before, and in a case where no morbid action was going on; for it is a fact incontrovertible, that the healthy secretions of one man may, under certain circumstances, become poisonous to another; and it is almost unnecessary to add, that a very small quantity of most morbid poisons, although ever so much diluted by the fluids of the human body, or by simple water, is as capable of exciting a disease, as the matter containing the poison is, in its purest and most concentrated state.

In the second place, an absorption had, I thought, taken place, from the inflammation of the absorbents being entirely above the puncture of the vein; the inflamed absorbents were easily discovered between the puncture and the tumour, and even for some way higher than the tumour. Why the poison caused the tumour, before it arrived at the axilla, I know not; there are, however, poisons so acrid as to inflame vessels, while passing through them, and this was [illegible], one of them; and may not some casual, but unobserved pressure, have stopped its progress to the axilla; as pressure is known to stop the progress of inflammation along the veins?

In the third place, I thought it clear, that some matter had been absorbed, from the general history of the disease, compared with that of the small-pox, and of every disease produced by the introduction of a morbid poison through a wound; the wound of the vein underwent inflammation and suppuration, and then the disease appeared. Its appearance so soon after the application of the poison, was probably owing to Mr. Green being naturally a healthy man, and to his labouring under no other disease at the same time. How far the weakness, induced by the great loss of blood, may have contributed to the quick appearance of the disease, I leave for others to determine; but that the weakness (the diminution of power,) bore no proportion to the increased action, was evinced by the pulse, the respiration, the sweat, and every symptom. Mr. Jones, with his usual sagacity, saw this at his first visit, on Wednesday morning; and his remedies were, in my humble opinion, judiciously chosen; but he entertained, I believe, no hope of Mr. Green's recovery, from the moment he first saw him.

The

The result of our conference was that we should diminish the action, or increase the power of the system. We agreed to repeat the cataplasm, but with the addition of some unguentum hydrargyri fortius; we agreed also to give freely cinchona, opium, and occasionally wine; another blister was laid upon the breast. This was, as already said, Thursday; and on Friday by twelve o'clock at noon, when I saw Mr. Green again, the tumour of his arm had totally subsided; and there were evident marks of inflammation from the bend of the arm to the axilla. But, alas! though Mr. Jones had, in my absence, applied sinapisms to the feet, with a view to relieve the head, yet the disease, which had undoubtedly a regular time of appearing and of ending, went on with such celerity and increase, that Mr. Green died this very day, Friday, in less than three hours after we had left him.

To the Editors of the Medical and Physical Journal.

THE case of monstrosity given by Mr. PULLEY, in your third Number, is extremely curious; and excites our admiration, that a child so formed, could "live about thirty hours," and was capable of taking a "little nourishment more than once." This surprising *lusus naturæ* is, however, as to its formation, by no means a singular one. I remember seeing one very similar about twelve years ago. I think the subject was a boy; it moved its limbs when first born a few moments, but never breathed. The parietal bones stood up on each side, and being somewhat crooked had the appearance of small horns. There was no brain, [illegible] excrescence, which seemed to form the beginning of the medulla oblongata, and entirely destitute of the occipital bone. I made a preparation of this subject, which remained with the gentleman with whom I then lived. Sometime in March last, I was called to the wife of a carpet-weaver, in this town, who was in labour. Upon *touching*, to ascertain the presentation, I had no doubt, from the soft sensation the part gave to my finger, that it was a breech case, and I fully expected a tedious labour; but, to my surprise, the very next pain protruded the *head*, and the whole body immediately followed. I now discovered the *soft part* I had touched, was a little *nob* just above the occiput, which supplied the place of a proper brain.—There were no parietal bones, and so small a part of the frontal, that the eyes seemed to stand on the top of the forehead. The face was regularly formed, but the back part of the head was quite flat, in a line obliquely backward from the frontal sinuses to the first vertebræ of the neck. This monster was a girl, and quite motionless when born. I much wished to preserve it, but could not overcome the prejudices of the poor woman. Though I am quite sceptical as to the old doctrine, of external objects producing these monsters, yet I enquired of the mother, whe-

ther any thing had occurred during her pregnancy, to which she attributed the defect in the child's head. But she knew of nothing, excepting a fall, about a fortnight before she was delivered, and even this was not much noticed at the time. All speculation about the *cause* of these *unnatural* appearances, seems premature, till "we know how the bones do grow in the womb of her that is with child;" but we only know, that it is the work of God, who maketh all."—If the above should be thought worthy a place in your very useful publication, I think the insertion of the following case, at the same time, may be of public utility, as it shews the extreme danger those unfortunate persons are always in, who labour under any species of hernia. On the 17th of this month, I was called to the wife of an alehouse-keeper in this town, and found her in *articulo mortis*, as she expired, in about half an hour after I saw her. Upon enquiring into the preceding circumstances, I learnt, that three days before, some persons had quarrelled in the house, and at last got to blows. The deceased had exerted herself in parting them, but in vain. From her fright, (as was supposed) she fainted, and had continued, at intervals, to do so till her death. Frequent vomitings came on, and she had no stool from the first attack. It may appear extraordinary, under these circumstances, that she should not apply for medical assistance sooner; but all her symptoms being attributed to a fright, created little alarm either in her or her friends. This account did not satisfy me as to the [illegible] death, and I suspected some blow had been given her in the quarrel. A[illegible] body appear[illegible] swelled, I gently pressed it with my hand, and in doing [illegible] felt through her cloaths a large substance, and, questioning her husband upon it, was informed she had an umbilical rupture all her life-time, but had never found any inconvenience from it. I had now no doubt but this had done the mischief. A rumour was soon spread, that the poor woman lost her life from some person doing her violence in the scuffle; which, coming to the coroner's ear, he sent a message to Mr. CRANE, (surgeon, of this town,) and me, desiring us to examine the body, and report our opinions to him, as to the cause of her death. We accordingly opened the umbilical tumour, containing some omentum, which was neither inflamed nor discoloured; but after carefully removing this, we found a small portion of intestine, not larger than a small walnut, completely strangulated, of a very dark brown colour. As no other marks of violence appeared about her, there could be no doubt as to the cause of her death. Her own exertion in the quarrel, probably protruded the gut, and inflammation and mortification ensuing, a very worthy woman was cut off from her husband and eight small children.

KIDDERMINSTER, *May* 24, 1799. GEORGE CUSTANCE.

An

An Inquiry into the Cauſes which produce Diſeaſe among the Troops at the Cape of Good Hope, with a View to diſcover the moſt effectual Means of Prevention. To which is added, the Outline of a Plan of Military Hoſpital on a Principle and Conſtruction tending to introduce a more ſucceſsful Treatment of the Sick.

[By STEWART HENDERSON, late Apothecary to his Majeſty's Forces at the Cape.]

THE following inveſtigation was ſuggeſted in conſequence of his Majeſty's troops being for ſome time very ſickly in this quarter, and erroneous opinions having gone abroad reſpecting the cauſe of the ſickneſs and mortality which enſued.

The plan of military hoſpitals, of which I here give the outline, is on a principle and conſtruction different, I believe, from any yet eſtabliſhed in Europe.

The want of proper military hoſpitals has been ſeverely felt, I may ſay, both at home and abroad; but ſince his Royal Highneſs the Duke of York filled the important ſtation of Commander in Chief, thoſe uſeful national inſtitutions which reflect ſo much honour on a country, are erecting, I underſtand, in different parts of the kingdom.

In the latter end of 1793, a regiment arrived at Plymouth, from Cork, in a very ſickly ſtate, having upwards of three hundred men ill of a malignant jail-fever. The beſt and only accommodation that could be [illegible] large ſtable, ill-calculated to contain ſuch a number of men labouring under infectious diſeaſe, and in a crowded ſituation [illegible] ventilation, and hoſpital-neceſſaries cannot be procured, medical efforts avail but little. As might be expected, every ſymptom was aggravated, and the effect of medicine counteracted. From what I have obſerved in the four quarters of the world, where I have been employed on actual ſervice, in time of war, the places allotted for, and named hoſpitals, appeared to me only adapted for men to die in, not to recover from diſeaſe; nor do I think that the great ſickneſs and mortality which have happened to the Britiſh troops in different parts, particularly in the Weſt Indies, and on the Continent, have actually ariſen from the irremediable effect of climate, or unavoidable hardſhips of ſervice, but from cauſes which I think might have been greatly obviated, if not entirely prevented: it is therefore to be hoped, that we ſhall profit from experience and paſt misfortunes, by adopting thoſe means of prevention, which I am well convinced are within our power, requiring only the aid and energy of the legiſlature, to appoint proper officers of health, eſtabliſh lazarettos, with the obſervance of quarantine, which are found ſo neceſſary in other countries for preventing the introduction of infectious diſeaſe, as well as having hoſpitals conſtructed on a proper principle; and that the medical department in theſe countries be filled by men of obſervation and experience.

Had

Had theſe precautions been adopted, and attended to in the Weſt I[illegible], in my opinion, the ſaving to the nation in men and money, would have been immenſe. We can only lament, that they were not put in practice; as they would, in all probability, have effectu[illegible] deſtroyed the contag[illegible]on at Grenada, and prevented t[illegible] importation of that peſti[illegible]ence into the other iſlands, in the manner related by Dr. [illegible]HISHO[illegible]M, in his [illegible]out a due Yellow Fe[illegible]r.

I ſubmitt[illegible]d a plan to Government in 1791 ([illegible]; and wh[illegible] inſert it the end of the following pages,) for preventing the intr[illegible] [illegible]tio[illegible]s diſeaſe into the garriſon at Chatham, whi[illegible] appr[illegible] [illegible]geon General, Mr. JOHN HUNTER, who ſtro[illegible] [illegible]ende[illegible] [illegible]ption of it. I was afterwards informed, that it had been adopted [illegible] Secretary at War, and found not to anſwer. To be ſatisfied on this point, I went to Chatham, and found that a ſhip indeed had been taken up, but not appropriated for the purpoſe of prevention (the important object I had in view,) but for the reception of ſick, of different complaints, as well as priſoners. General Fox, the commanding officer of the garriſon, at the ſame time informed me in writing, that he would never be induced to recommend ſoldiers of any deſcription to be put on board ſhip, exc[illegible] ſuch as were priſoners, merely for the ſake of ſecurity, when there were not ſu[illegible]ient priſons on ſhore.

As there is no building unconnected with the garriſon, for the purpoſe of pre[illegible]n, [illegible] the [illegible]oſpital being a part of the barracks, it is evident, from the deſcription [illegible] brought in, [illegible]at infection muſt be, I may ſay, daily introduced; and, [illegible], a portion of it exported to different parts of the world, by every detachment ſent from thence, notwithſtanding the prudent and judicious meaſures ordered to be purſued by the commanding officer, as well as the attention paid by the gentleman who ſuperintends the medical department—but medical men can do no more than recommend. However, ſince the publication of my printed letter, in January 1795 (addreſſed to the officers of the army under orders for the Weſt Indies,) on the means of preſerving health, I find that certain articles of diet and neceſſaries for the ſick, which I particularly recommended in that letter, are now ſupplied at the expence of government, for the uſe of the troops on board; and I can affirm, that the moſt beneficial and ſalutary effects have ſince been experienced, by the arrival of ſome regiments at the Cape from England, without having any ſick; the conſequence, no doubt, of prevention being better underſtood and attended to.

Travellers who have viſited this part of Africa, for the purpoſe of inveſtigating the Natural Hiſtory of the country, ſpeak with rapture of the ſalubrity of its air and natural productions. I think it will be found, upon inquiry, to merit the moſt favourable opinion. The face of the countr[illegible] for a conſiderable

derab[illegible]e distance (ex[illegible]ept the land wh[illegible]ch forms the Cape,) is rather low; but [illegible]pen, and well cultivated, of a sandy and marly soil, which soon absorbs the rain, thereby preventing the noxi[illegible]us exhalations, so productive of sickness in hot climates. The air, except [illegible]ew months, may be called temperate; the atmosphere is seldom loaded with [illegible]ture, but possesses a degree of elasticity not often felt i[illegible]ther country; and although Fahrenheit's thermometer, during t[illegible]onths*, ranges fr[illegible]o to 90, [illegible]d frequently a considerable v[illegible]denly experienced; yet from the dryness of the atmosphe[illegible]irculation of it being kept up by the prevailing south-east [illegible]e [illegible]tution [illegible]ers little from relaxation. Invalids from India, [illegible]g under complaints of debility, the effect of great heat, soon recover [illegible]ir strength here, by the temperate and bracing air of the winter months; and a further proof of its salubrity are the florid and healthy looks we perceive in the Dutch inhabitants, especially those who live in the country, and are not enervated by luxury and indolence; though it is remarked that there are not many instances of longevity among them, owing in a great measure to their habits and manner of life, yet they are happily exempt from man[illegible] of those endemic and epidemic diseases which rage in other parts of the world, and annually carry off great numbers. The small-pox, measles, [illegible]mittent and intermittent fever, and that most fatal of all diseases, the jail, hospital, or ship fever, which destroys so many of the human species in every part of Europe, are never generated h[illegible]re, an[illegible] [illegible]was [illegible], but when introduced; which, unfortunately for the natives, has sometimes happened. We likewise find, that neithe[illegible] [illegible] officers are attacked with the diseases which prevail among the sold[illegible], and it is a singular circumstance, that not an officer of the army or navy has died of disease contracted here, since the British forces arrived at the Cape (during a period of three years;) which I think clearly proves that no noxious quality exists in the air of this country, which has been by some imagined, and erroneously blamed, as the cause of the malignity of the disorders, and the many deaths that have occurred in the General Hospital. We must therefore look for other causes than those assigned.

The natural productions for the use of man perhaps exceed in variety most parts of the world. At that season of the year when great heat prevails, nature has made ample provision to lessen its influence on the human body, by the abundance of sweet acid fruits (European and Tropical,) of which instinct and our reason dictate the use.

Upon the whole, considering its situation, climate, and natural productions, so far from being deemed unhealthy, it may more properly, in my opinion, be styled the Montpellier of the Southern hemisphere.

The

* November, December, January, and February.

The diseases which prevail among the soldiers are: fever, dysentery and ulcers.—The principal causes seem to be the unlimited and immoderate use of ardent spirits, want of proper diet, cloathing, and bedding.

There is, no doubt, in the human body, a constant tendency to putrescency; more especially in a hot climate, producing various morbid appearances; and this tendency will be increased in proportion to the nature and quality of our food. Men using much animal food, with small proportion of vegetables, soon contract diseases of a putrid nature; and when assisted by that powerful agent, and destructive poison, new brandy, to which soldiers have so much access to, cannot fail to produce such changes in the solids and fluids, as to aggravate those diseases which from other causes have incidentally come on.

In a constitution thus previously prepared, it is easy to conceive, that the smallest scratch or wound will degenerate into an ulcer; and if seized with fever or dysentery, the worst termination may be expected.

I therefore consider the immoderate use of ardent spirits to be the great leading cause not only of disease, but those frequent punishments which have proved fatal to many of the soldiers, from the bad state of their constitutions, and foul air of the hospitals. In my printed letter already mentioned, I gave an instance of what happened in the southern province of India, when there was no arrack for the troops in camp. The sick considerably decreased, although the fatigue of duty was great, and the season unfavourable; but a few days after, receiving a supply of that liquor from Calicut, the sick-list again returned to its usual standard.

The want of [illegible] coats and bedding in barracks has assisted in producing disease, particularly the dysentery. The fever is supposed to have been introduced from the ships, but may likewise be generated in the barracks, unless the greatest care is taken to preserve cleanliness and ventilation.

Having endeavoured to show, what are the causes of disease among the troops, it is next to be considered in what manner those evils may be obviated.

Many difficulties arise on this head, which, perhaps, can only be removed by the strenuous support and exertions of commanding officers. The thoughtless set of men which the generality of soldiers are found to be, with respect to what concerns their health, should make them be considered and treated as children; obliging them to conform to those regulations, which have been found to be most salutary, and preclude them as much as possible from obtaining what is pernicious.

Cleanliness, not only their persons, but in and about the barracks, ought to be the first consideration: all filth, dirt, and offal of animals (of which the Cape so much abounds), should not be permitted to be left on the ground, but thrown into a pit, and covered with earth.

The

The barrack-rooms should be frequently white-washed, and no obstructions remain to prevent the free circulation of air.

To guard against the variation of the temperature of the atmosphere, and chill of the night, the men should be obliged to wear a flannel waistcoat next their skin, which ought to be frequently changed.

They should have bedding, and sleep in hammocks, or on cot-frames, at least two feet above the surface of the floor.

They should have two regular meals a day.—For breakfast, tea, coffee, or rice-gr[illegible] be had at the least expence; and as they have no beer, as [illegible] England [illegible] might be granted in lieu thereof.—In the West [illegible] and other climates, a hot breakfast has been found most conducive to health. For dinner, beef, or mutton, made into soup, with a proportion of vegetables, and seasoned with capsicum, the pepper of the country: a cabbage would also be daily necessary for every six men: but as soldier's pay may not be adequate to purchase a sufficiency, might not the public grounds, or waste land, be cultivated, for the raising of vegetables for the use of the soldiers?—or it might become an object of government to make some allowance for that salutary purpose; which trifling expence, I am convinced, would in the end be greatly over-balanced, by a considerable reduction of hospital-expences, and the preservation of many lives*.

By attention to a proper diet, their constitutions would be more able to resist the baneful effects of that destructive poison before alluded to (new brandy,) the use of which it is found so difficult to prevent, while at the same time their diseases would be of a less malignant nature.

To prevent as much as possible the use of that pernicious spirit, so destructive to the health and morals of the men, let there be no house in the town licensed to sell wine or brandy to the soldiers; and that a tax be laid on the retailer of the latter article, so as to prevent the soldier from being able to purchase it. Every regiment should have a canteen near the barracks, to sell nothing but wine, subject to the inspection of an officer, to see that it was of a good quality, and every precaution taken to prevent abuses.

When a fever of an infectious nature has been introduced from ships, or generated in the barracks or hospitals (which frequently happens, when they are not sufficiently ventilated, and too much crowded,) the most effectual

* Since this inquiry was drawn up, the soldiers have had their pay increased, by the recommendation of his Royal Highness the Commander in Chief; in consequence of which, they are abundantly supplied with vegetables, and every necessary for preserving their health.—This salutary measure, joined to the judicious regulations ordered to be pursued by Major-General DUNDAS, the Commander in Chief at the Cape, had a wonderful effect on the health of the army; for many months there was not one medical patient in the General Hospital, for every physician there on the staff.

 means

means ſhould be employed to eradicate it, and prevent the infection ſpreading. A ward ſhould be particularly appropriated for the reception of thoſe caſes: all their cloaths, bedding, &c. ſhould be completely fumigated, as well as their bodies, by a mode lately recommended by a very ingenious and eminent phyſician, Dr. CARMICHAEL SMITH, which is ſaid to have anſwered moſt effectually in a highly infectious fever, which prevailed in ſome priſons and ſhips in England.

By attention to ventilation, cleanlineſs, proper diet, cloathing, bedding, and preventing the uſe of ardent ſpirits, the moſt [illegible] ſalutary effects would no doubt be produced [illegible] coun[illegible] mate is ſo favourable to health, and I think is proved to have litt[illegible] ſhare in occaſioning the diſeaſes which are ſo deſtructive to the troop[illegible]

It has been often remarked, that among the numerous calamities attendant on warfare, infectious diſeaſe has ever been conſidered the moſt fatal foe: thoſe who fall by the deſtructive implements of war are few indeed, compared to the great number who periſh in our armies and fleets, by the ſecret malignancy of this diſeaſe, as we find that no region of the globe is exempt from its baneful influence, where military operations are carried on. Every precaution we are acquainted with ſhould be put in force to prevent the introduction of an enemy ſo deſtructive to the human race.

The bad conſtruction of the hoſpitals, and want of proper arrangement in them, I conſider a principal cauſe of the ill ſucceſs which attends the military practice of phyſic, and to have greatly contributed to generate, and, I may ſay, nurſe infections to that degree of virulence which has been fatally experienced in this and every other quarter, particularly in the Weſt Indies, and on the Continent; for a crouded hoſpital, badly ſituated, want of cleanlineſs, ventilation, and good nurſing, will certainly counteract the beſt effect of medicine: this appears, by Dr. M'LEAN, to have been ſeverely felt, and fatally experienced, at St. Domingo.

With deference, I offer a ſketch of two hoſpitals calculated for an army of ſix or ſeven thouſand men, in this or any other healthy country; which I think, when aſſiſted by great medical ſkill, would prove a formidable enemy to combat and deſtroy diſeaſe; and from particular enquiry, I can ſay, the expence of building them would be trifling conſidering their utility. Every choice of ſituation is to be had here (Cape of Good Hope,) which is of the utmoſt importance in fixing an hoſpital.

We find the diſeaſes which attend military ſervice in every part of the world, are: fever, dyſentery, and ulcers; the latter, though not produced by contagion, yet from the fœtor, and putrid ſtate of the ſore, pollute the air, and render it in a great degree noxious to animal life. In the beſt ventilated hoſpital, where a number of morbid bodies are placed in one ward, foul air

will

[illegible] be generated; this, joined to the distress both of body and mind, which each patient suffers from another, must aggravate every sympton of disease, and greatly retard the cure.

By each patient being placed in a separate apartment, many advantages would arise, tending to promote their recovery; infection would be destroyed, and entirely prevented; and [illegible] cure accelerated by rest and quietness.

The want of regular and orderly attendants [illegible] the sick, by employing men from [illegible] different regiments, besides weakening the military force, is found to [illegible] other bad [illegible]sequences to the service. I would therefore pro[illegible] a [illegible] be regularly appointed to the hospitals, under the name of h[illegible] attendants; to be composed of sober and humane characters. The [illegible] to wear a uniform to distinguish them from the patients, and might consist of the following:

To the first Hospital, of 120 Patients.	
1	Ward-sergeant
1	Matron
1	Surgery-man
1	Barber
1	Cook
6	Wa[illegible]rwomen
20	O[illegible]erly-men
10	Nurses
4	Blacks to keep the rooms and privies clean.
—	
45	Total.

To the Convalescent Hospital, of 160 Patients.	
1	Ward-sergeant
1	Matron
1	Cook
1	Surgery-man
1	Barber
6	Washerwomen
4	Orderly-men
4	Nurses
2	Blacks, to kee[illegible] roo[illegible] clean
—	
21	Total.

STEWART HENDERSON.

The following Outline of a Plan for preventing the Introduction of Infectious Disease into the Garrison at Chatham, was forwarded to the War-Office by Mr. WOOD, *Surgeon to the Garrison.*

SIR, *Upper Barracks, Chatham, May 1st, 1791.*

I beg leave to propose a plan which, I think, if adopted, would be the means of putting a stop to the introduction of the jail-fever into the garrison, and prevent the further progress of that malignant disease. It has one thing to recommend it, which perhaps may be deemed a consideration, viz. that it will put government to little expence, as well as prevent many desertions, and some diseases, the consequence of irregularities.

We know the causes of this disease to be foul air, and want of cleanliness; of course, the men most liable to it, are those confined in prisons, and other unventilated places, where cleanliness to their persons is not attended to: and what renders the introduction of this fatal disease the more to be dreaded is, that men of this description often retain the infection, and have the power of communicating it to others, though at the time, they have no

 symptoms

symptoms of the disease; for it is known to lay dormant a considerable time until brought into action by some exciting cause.

The garrison at Chatham being the general receptacle for recruits, many of them brought from the Savoy, and other prisons in England, it is evident what a source of infection must be introduced and propagated through the barracks by their mixing promiscuously; nor is it possible to eradicate it while the fresh seeds of infection are daily from all quarters brought in.

To obviate those evils, I would propose that a ship of the line (one of the old hulks) be employed as a lazaretto, or receivi[illegible]ioned, for convenien[illegible] opposite the garrison.

The recruits, instead of being brought into the [illegible]s, to be sent immediately on their arrival, on board this ship (particularly those who have been lately in prison), to be stripped of their filthy clothes, which should be burnt, as well as every thing about them that appears to retain infection.

Their bodies to be well washed with warm water and vinegar, and the utmost cleanliness attended to while they remain on board.

That a superintending officer, with a surgeon, be appointed to give directions respecting the salutary regulations, and medical assistance in such cases as may occur.

Proper non-commissioned officers to be on board, for putting the regula-[illegible] in force, and preserving order and regularity.

The recruits to remain on board at least a fortnight; but if any appear suspicious, which may be judged from their unsalutary appearance, visible to every medical observer, let those remain a week longer. The itch, and other slight contagious diseases, may be cured before they are sent on shore.

That a ship of a smaller size be employed as an hospital, for the purpose of receiving such men as may be attacked with the malignant fever; who should be removed from the receiving ship on the first appearance of the disease; and, as the men can be mustered daily by an officer and surgeon present, the earliest attack may be discovered, which is of the utmost importance towards the cure of the disease.

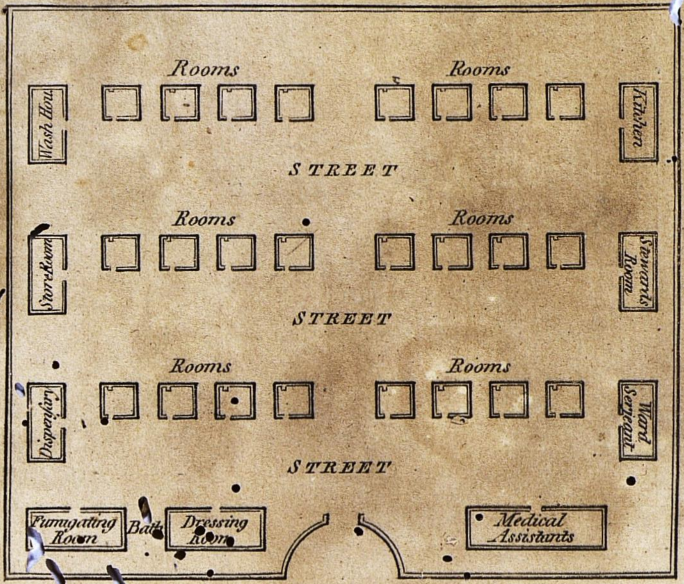
Such is the outline of a plan which, I think, with some improvements, that you and others, more conversant in the service, are capable of making, would tend most effectually, not only to put a stop to the introduction, but check the progress of a disease, which proves so destructive to the troops.

STEWART HENDERSON.

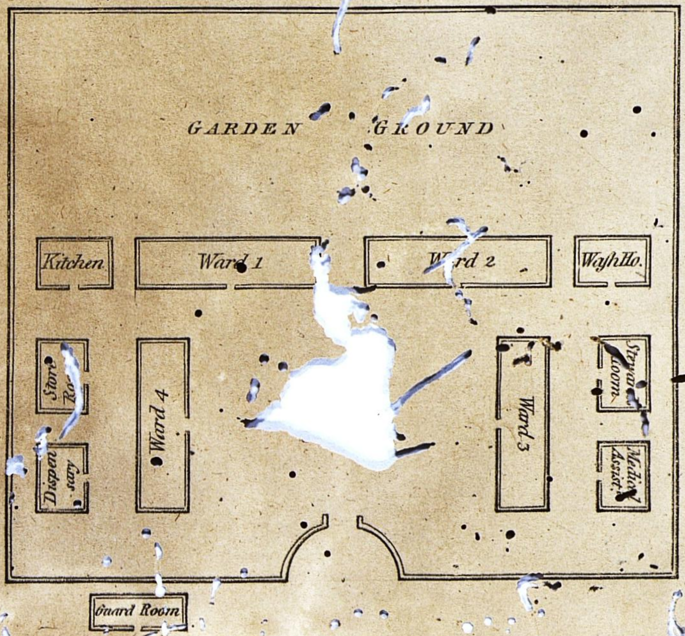
TO VINCENT WOOD, Esq.
Surgeon to the Forces, at Chatham.

On

Outline of a Plan for a Military Hospital to contain 120 Patients in Acute and Infectious disease: Each patient to have a separate apartment 7 feet by 8, height 10 feet; the floor brick or stone; & frame of the bedstead Iron. Four feet distance between the rooms and the streets twenty feet wide; The patients to wear the hospital dress until their situation renders it proper for them to be removed to the Convalescent Hospital, adjoining. Nothing to be in the rooms that can retain filth, vermin or infection. — A small ventilator in each apartment and a window over the door opposite to another.



Outline of a Plan for a Military Convalescent Hospital, to contain 160 patients, divided into 4 wards, each 120 feet in length, 18 in breadth, and 14 high; the floor brick or stone; & frames of the bedsteads Iron. Ventilators in each ward.



On the Nature and Causes of Dysentery. By *Mr.* J. CHRISTIE, *(27th Foot.)*

[Concluded from our last Number, p. 347—356.]

WITH respect to those contagions producing fever, the plague, dysentery, &c. I question whether they be specifically distinct, or whether, from a higher degree of virulence of the same poison, different forms of disease appear.—This I have frequently observed, particularly in India, those soldiers who were much addicted to drinking toddy, and other liquors that affect especially the alimentory canal, subject to fluxes, and other soldiers more temperate, but in other respects exposed to the same exciting causes, attacked with fever, &c. The heat of the atmosphere, when carried to a certain length, certainly has the power of modifying or rendering altogether inert the action of contagious effluvium; hence within the Tropics, the plague and jail-fever are either unknown, or rendered much less formidable than they would have been in more temperate climates. As I before mentioned, I could never observe the dysenteries in India communicated from one person to another.

As the syphilitic poison is a native of a warm climate, where the passions are readily excited, and generally keen, may it not be probable that this disease was first produced by excessive and licentious sexual intercourse; by this intercourse being indulged when the habitual changes of the female, and the more acrid secretions of the warm climate, and want of cleanliness, would render the formation of a new poison more likely to happen? This will be corroborated, by observing how other morbid poisons have been generated by the bodies of men placed under certain circumstances; this leads me to conjecture that the syphilitic, like other morbid poisons, may also exist only in a gaseous or invisible form; that its activity is only preserved when diffused in a proper vehicle, as for instance, the serum of our blood; that this poison is either of so tenacious and sluggish a nature, that the atmosphere has not the power of suspending it in an active state, or what would appear still more probable, there may be a neutralizing quality in the air which has the power of rendering the syphilitic poison inert, the moment it begins to evaporate. The atmosphere possesses, perhaps, many such benign powers, with which we may never become acquainted, and here it would appear at least consonant to the benevolence and wisdom of the Creator of the Universe, to suppose there may be a quality in the air to prevent the ravages of a poison, which, were it allowed to float about actively, would render the pure and virtuous its victim, as well as the revelling debauchee.—While we thus suppose that some of the fluids of our bodies are the only proper vehicle in which certain poisons can exist, we

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may also be allowed to conjecture, that the air is the only fluid in which others can preserve their peculiar properties; and that, when they come in contact with the fluids of our body, *they* have the power of rendering such poisons inert; and this act of the constitution may produce various kinds of fever, among which we would class intermittants, scarlet fever, hooping-cough, and probably also measles.

Having thus mentioned so fully the appearances of dysentery, and offered those conjectures with regard to its nature and origin, and contagion in general, we now proceed to mention the method of cure that was employed principally at Bombay.

When along with other symptoms of the disease, there was a foul tongue, nausea or vomiting, we generally began by giving an antimonial emetic, as a solution of four or five grains of the antimonium tartarisatum, dissolved in four ounces of water; and the patient directed to take an ounce of this every fifteen minutes till he vomited; and if, (as generally happened) it also operated by stool, so much the better.

Commonly however, on the first appearance of the disease, we began by giving an ounce or an ounce an a half of Glauber's salts (natron vitriolatum ph. Lond.) with or without a little manna; and, if the griping continued, six drachms or an ounce more of the same salts was given, to carry off the complaint entirely; although, at the first attack, there was every appearance of a violent disease. In all the milder cases these salts rarely failed in removing the symptoms, and I have long thought the neutral salts are peculiarly well adapted for the cure of this disease. I have therefore been generally in the habit of giving either the Glauber's salt or sal catharticus amarus, (magnesia vitriolata) in the beginning of dysenteric affections, and constantly found them preferable to any other purge whatever.

In the dysenteries I have had occasion to see, in camps in England and on the Continent of Europe, I found that after a purge or two of the neutral salts, the giving a weak solution of the tartarised antimony, (as one grain in two ounces of water) in the quantity of an ounce three or four times a day, so as to operate chiefly on the bowels, appeared to be well adapted for the cure of dysentery—seldom was any thing else necessary—it rarely, in such cases, produced nausea—it kept the bowels pretty easy, and generally occasioned a salutary moisture on the skin, which always mitigates the violence of the dysenteric symptoms.

In those cases at Bombay, however, when the symptoms continued unabated after the purges, we began immediately the use of the mercury internally, as well as externally applied. The freedom with which practitioners use mercury, in this and other endemics of India, is well known; the generality of its application, and the character it has long held among, perhaps, some of

of the most eminent practitioners of the British empire, seem to render it altogether unnecessary for me to expatiate on the utility of this medicine in dysentery. On my arrival at Bombay, I was not indeed acquainted with the general use of mercury, in the cure of this complaint; and I was therefore employed at first in administering the usual remedies only, until Doctor KERR, of H. M. 75th Regiment, a gentleman of great discernment and much experience in tropical diseases, cleared up my mind respecting its use,—his directions were, regularly followed, and I must confess with considerable heart-felt satisfaction to myself.

In some, where there was more than usual vascular excitement, and where the habit was full and plethoric, we sometimes took away a few ounces of blood from the arm, and seemingly with benefit. In no complaints, however, should the lancet be used with greater caution perhaps than in this disease, for it is apt to be followed by great debility, and inflammatory symptoms seldom run so high as to urge its use.

Immediately than after purge of the salts, (to which was occasionally added, with advantage, half of a grain or so of the tartarized antimony) a drachm and a half of the common mercurial ointment was rubbed in morning and evening, at the same time giving a pill, consisting of two or three grains of calomel, every night at bed time, till the mouth became affected; and in a very few instances indeed without an immediate relief from all the symptoms of the flux.

When however the griping and tenesmus continued violent after the mouth became affected, the mercurial frictions were increased and continued till a copious salivation was brought on, and always with manifest advantage.

When the skin felt very hot and parched, together with the calomel pill was added about the third of a grain of the tartar emetic, or what seemed to answer still better, six or eight grains of James's powder. These generally by introducing an agreeable diaphoresis, afforded considerable relief; besides, antimonial medicines seemed to hasten the action of the mercury, an event always to be wished and looked for, and which, as before mentioned, seldom failed in procuring a remission of the dysenteric symptoms;—when these however were unusually violent, and the mercury long and tardy in operating, the calomel pill was given morning and evening, and the mercurial fractions were increased to two, or even three drachms of the strong ointment two or three times a day; and, though this was certainly a great quantity of a very powerful remedy, in a very weakening disease, I never had any cause to regret such exhibition, for it frequently seemed to act like a charm; and even where there is more than usual vascular excitement, the mercury should never be long withheld or scantily exhibited.

When a sufficient quantity of the mercury could not be rubbed into the

legs and thighs, the friction were then directed to be made on the sides, and abdomen also, thus covering, as it were, the whole body with mercurial ointment.—In this way two or three ounces of the strong ointment would be used in the course of a few days, at the same time the calomel pill morning and evening; and, although the effects produced by the medicine, as profuse salivation, hemorrhagy from mouth and throat, and a total incapability of swallowing harsh solids, these were matters of secondary consideration when compared to the relief obtained from the distressing griping and tenesmus.

In some obstinate cases, especially those of long standing, or which had undergone relapses, the mercury could never be made to effect the mouth sufficiently—it merely produced a brassy kind of taste, without an increased discharge of saliva, or moisture on the skin. In some such cases, small doses of James's powder, or the warm bath continued for a sufficient length of time, appeared to promote the action of the mercury, and to relieve the complaint.—Along with the free use of the mercury, we did not fail at the same time to employ other remedies in use in this complaint.—The patients drank largely of bland mucilaginous drinks, as barley or rice water, linseed tea, solution of gum arabic in toast and water, &c.—These, and particularly the oily demulcents, as they have been called, are particularly useful in sheathing the intestines from the acrimony of the matter.—It is seldom, however, that the stomach can bear the oily medicines in such quantity as to be of any great service—and the acidulated drinks, as decoction of prunes or tamarinds, so frequently, and, from the general putrid tendency of the disease, so rationally recommended, will seldom be found at all admissible: though at first eagerly desired by the patient, he soon finds such drinks increase the griping intolerably, and he prefers the plainest, which in most cases are the best.

The patient's diet consisted of vegetable food and soups only, as barley or chicken broth, wheat, or rice pudding, sago, and during the violence of the disease, a total abstinence from animal food.

A large emolient glyster, made of warm water and oil, or a starch glyster, or one made of decoction of linseed with oil, was thrown up the rectum at bed-time. When the griping stranguary, or tenesmus was very severe, these were repeated two or three times in the course of the day; and, by adding a couple of grains of opium, or about sixty drops of the tincture, to the one given at bed-time, generally procured the patient a refreshing sleep and an easy night.

In some cases, where the frequent stools and severe griping and tenesmus were uncommonly distressing, so as to exhaust the patient in an alarming manner, I was tempted to give an opiate by the mouth; and, although it always procured considerable relief, which the patient was always very sensible of and of course became eager for, I never gave opium by the mouth in this disease but with reluctance, I always thought it disposed the bowels, after

its action, to more severe griping and less free stools. In some cases, however it was really indispensibly necessary, and in convalescents, where there is chiefly debility of the intestines, with little griping and free stools, opium will be found on many accounts preferable to any other medicine.

When the pain in the bowels is very distressing, this will be generally relieved by warm fomentations, or the warm bath frequently repeated and continued for a sufficient length of time. When these however fail, relief will be pretty certainly obtained, from the application of a large blister to the umbilical region—and the good effects of this remedy appeared to me often remarkable, and when the griping returned violent after the first blistering, a second or third was at the interval of some days occasionally repeated, and always with very striking benefit.

To this subject I was led to pay some attention from having seen in notes added to first lines that ... deserve to have been written in letters of gold—the good effects of blistering in griping doubted—and that the advantages said to arise from this might probably be obtained from the purges and diluents. The effects of a large blister however, are in general more evident and decisive than that of diluents or purges, and I see indeed but little room or deception here—From many and repeated trials I have been long persuaded, that blistering, particularly when repeated, has procured most evident alleviation of the severe griping, when such relief could not be obtained by any other means; and from analogy it appears to me, to be a very rational remedy, by its taking of in some measure the inflammatory disposition of the internal parts, and may also be useful here perhaps by favouring the more ready absorption of the mercury.

Generally, after the use of mercury and other remedies mentioned the patient gradually recovered without other medicines. In other cases however the griping, frequent stools and tenesmus, continued for weeks; and all that was done in such cases, was to keep the patient's bowels pretty easy by mild laxatives and occasional glysters, in which some opium was dissolved—A very useful medicine, where the stomach will bear it, is castor oil. We were however in such cases generally in the habit of giving a dose of pills, consisting of three or four grains of calomel with six or seven of rhubarb every second or third day, as occasion required. It sometimes happened that the calomel given in this manner did not operate sufficiently; or, where the patient was considerably debilitated, it even appeared to act too roughly and then nothing seemed to answer so well as a gentle dose of the purging neutral salts; these always procured easy stools, and left the patient in an easier state than any other laxative.

Rhubarb alone always appeared to me an improper remedy in this disease; perhaps it should not be given at all, and I could never observe any advantage to be derived from ipecacuana.

When the bowels continue long in a relaxed state, and the patient does ot recover his strength readily, some astringent or tonics may become necessary; but the mildest are certainly the best. The bark, particularly the Augustura, the Quassia, or Simarauba, may be t... but gradually bringing the patient to a nourishing diet with a little wine, will in general supersede the use of other tonics. Indeed it was only in the more violent cases, or where the mercury was sluggish in its operation, that other remedies were thought requisite. Those were considered merely as palliatives in the complaint, or auxiliaries to the grand remedy, mercury; the effect of which, in dysentery, is not a little remarkable. Its modus operandi in this and other diseases, where there is great debility, and where we might suppose the symptoms would be thereby increased and aggravated, may be difficult to account for. The quantity diffused any time in the fluids, is probably too small to have any share in altering their chemical properties; and, by saying that mercury, in the cure of diseases, excites a peculiar action in the system, incompatibie with the deceased one, is going as far perhaps as we are authorised at present. Its influence in syphilis, in chronic rheumatism, in yellow fever, and in dysentery, seem at least to justify the expression.

I shall now conclude these observations with a few words on the dissection of those I have had occasion to examine after death at Bombay. Six bodies were opened, and in all the colon and rectum appeared to be the principal seat of the disease. The first case was a man who had been ill two months previous to our landing. The internal surface of the great gut had an irregularly rugous appearance, and was considerably increased in thickness. The mesenteric glands were indurated and enlarged; and a cyst, containing considerable quantity of purulent matter, was found in the right lobe of the liver. Here it may be proper to say, that this was the only case that was examined, where the disease had been of long standing, all the others having died in the second or third week of the disease, or at least from the ...me they had relapses. To save repetitions, the following were the ...neral appearances:

The internal surface of the colon and rectum was covered with irregular ...cers, of the size of crown and half-crown pieces. In some, this intestine ...peared as if the villous coat had been peeled off; and its substance was ...the same time much increased in weight and size. The external surface ... the great intestine had generally interspersed over it gangrenous-looking ...ts; had lost its texture; was flaccid to the touch. In some the gut was ...mpletely mortified, and in one the feculent mattter had escaped into the ...ity of the abdomen. In this case the masentric glands were very consi...ably enlarged; the liver was indurated, and had little abscesses formed

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throughout its substance, and the very offensive putrid smell arising from the opening this body, was intolerable. In some too, the small guts had not escaped, for portions of the Illium appeared not merely to have been altered to a darker colour, and thickened their substance, but also the internal surface partially affected with ulcerations.

In one subject a considerable quantity of bloody serum had been poured out into the cavity of the abdomen.

Analysis of Dr. JACKSON's *interesting Work on Idiopathic Fever; or "An Outline of the History and Cure of Fever, Endemic and Contagious, &c."*

[Concluded from our third Number, p. 225—230.]

CHAP. III.—*On the remote Causes of Fever.*

"IT is perhaps no longer disputed, that those derangements of the human frame, denominated fevers, whether *endemic* or *contagious*, owe their origin to two* sources only, viz one natural and generally diffused over the surface of the globe; the other artificial and insulated: it is difficult, in many cases to define their limits precisely, but the matter is of such importance as to demand an attempt.

"The *first*, a vegeto-animal source, usually called *marsh miasma*, occupies the wide extended bosom of the earth; it is generally diffused in the atmosphere, abounds more in some situations than in others, and is rendered more or less active by a great variety of causes,—causes sometimes of regular connexion in the system of the world, sometimes apparently of accidental occurence,—at one time obvious to the senses, at another obscurely perceived, or altogether imperceptible. This cause produces disease, and frequently such a derangement of the system as is incompatible with life; but *it is lost in its first operation.*

"The *second*, derived from an animal source, more expressly from an altered condition of the living human body, is confined in its sphere of action, communicated only by contact, by near approach, or by a medium

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* Dr. ROBERTSON says, There are *four* great and dreadful sources of febrile infection, viz. marsh miasmata, jails, hospitals, and ships; and I avow that the infection of the three last sources is *one and the same*, consequently that the fever is the same; that fever from these last sources differs in no essential respect, from fever arising from the *other* grand source of febrile infection; and, as the same mode of treatment is equally successful in all of them, I am led to conclude, *that febrile infection is the same throughout the universe*; and that the cure depends upon one invariable philosophical principle, 59, 188, &c.

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connected with the ſource. This cauſe produces diſeaſe, and under that diſeaſe ſuch a derangement of the ſyſtem ariſes, as urges a multiplication of the original cauſe, which, extending itſelf to a certain diſtance from the ſource, propagates ſimilar diſeaſe through a series of ſubjects.

" The *firſt* ſource affords the cauſe of the numerous forms and degrees of endemic fevers. Theſe are obſerved to prevail in certain climates, in certain ſeaſons, and in certain local ſituations of the ſame climate more than in others; they are, upon the whole more frequent in tropical and warm countries, than in high latitudes and frozen regions; they are more frequent in ſpring, and particularly in autumn, than during the other periods of the year; and they are uniformly more frequent on ſea-coaſts and plains, near ſwamps and rivers, than in the interior and mountainous parts of a country.

" But beſides that the ſcendemics are general, periodical, and in ſome manner connected with the cauſes which influence the *vegetation of plants,* they ſometimes alſo appear irregularly and epidemically; they affect ſtrangers more generally and more violently than the natives of the diſtrict; and men under conſtant and active labour, leſs than thoſe in a ſtate of reſt, or after deſultory exertions.

" The ſource of this cauſe is known, and many of the laws which influence its action are clearly aſcertained, but little or no progreſs has, as yet been made in the diſcovery of its intimate nature and properties.—In a given time after expoſure to the known ſource of the diſeaſe, more frequently at the expiration of a fortnight than any other period, the healthy action of the human body becomes ſuſpended, impeded, or diſturbed in different degrees; action of a new form ariſes, generally or locally exerted according to circumſtances, which continues for a certain and ſtated time; it however often happens that the immediate action of the cauſe, or the effects conſequent to that action, ſpeedily and irrecoverably derange the organization of the frame, ſo that death enſues.

" Endemic fever is almoſt uniformly prevalent where vegetation is luxuriant, at leaſt, where the requiſites of a luxuriant vegetation greatly abound. In this manner, as vegetation is more luxuriant in tropical and warm climates than in temperate and frozen regions, ſo notoriouſly is endemic fever," p. 105. This argument in the following pages is placed in a variety of light, by Dr. Jackſon, and urged with a perſpicuity and clearneſs of reaſonings, we will not ſay peculiar to our author, but we may ſay, uncommonly gratifying to a medical reader; though perhaps the ſubject is not ſo important in this climate as that of the cauſes of contagious fevers. He concludes his remarks on this *firſt* ſource of the cauſes of idiopathic fever, with the following ſhort recapitulation:

" It has been obſerved that this cauſe is loſt or changed in its firſt operation.

tion. It often rapidly destroys life; but it begets no process in the human system by which it can propagate itself. In short, endemic fever may be, and often is *epidemic*, but it is not *contagious*. The source of endemic fever is a *natural* one, common to the whole earth; the source of contagious fever is *artificial*, produced by arrangements which take place among men in certain states of society."

On the causes of contagious fever, Dr. Jackson, p. 109, says,—

"The cause, and consequently the disease, is found in large, particularly in manufacturing cities, more especially among classes of men confined to sedentary employments, slothful and dissipated in habits, oppressed with poverty, clothed in rags, confined and crowded in their apartments, and suffering from want of food. It is common in jails where men are crowded together, deprived of the benefit of pure air, suffering hardships of body, with various anxieties and afflictions of mind.

"It is on the same account, frequent in work-houses or poor-houses. It sometimes originates in, but is often transplanted to hospitals, where it spreads with rapid growth. It appears, on some, though on rare occasions, in the country among the families of poor cottagers. It is not peculiar to season or to climate, but it appears oftener in winter than in summer, and, in temperate than in hot climates; yet, as it depends every where upon adventitious and artificial causes, it sometimes commits ravages in summer, and *it has even appeared in the torrid zone*.

"Such are the sources from which this disease originates, and the situations in which it is most frequently found. Artificial constraint, and confinement in a narrow space, by inducing *a new process of secretion* in the living system, seem to be the leading instruments in generating the cause. The organization of the human body is proved to be such, that it does not preserve a healthy action, unless under pure and free air; nor does it possess vigour, unless under *frequent changes of place, and active exercise*, calling forth the exertion of the moving powers. It indeed appears, that without these essential requisites, the actions which support life are not only languid, but they become diseased, or fall into unnatural movements; in consequence of which, the ordinary secretions are so changed, that though the actual existence of fever be not apparent, something noxious seems to escape from the system, which, to a certain extent from its source, effects the health of others. In this manner it has often been observed, that persons from jails, work-houses, and other places of artificial confinement, though not at the time, and what is still more remarkable, though not observed at any period to have laboured under formal disease, carry in themselves or in their clothes, causes which occasion fever, in its most formidable aspects, to those who approach near to them. It is farther to be observed, that the cause, thus gene-

generated, ſpeedily produces a fever in the body of a healthy man; and that the fever ſo produced is accompanied with ſuch alterations in the ſecretions of the ſyſtem, as to generate a cauſe, occaſioning a ſimilar diſeaſe, through an endleſs variety of ſubjects. This is a curious and an important fact. The fever, which owes its origin to certain connexions with vegetable and *dead* animal matter, ſhows no diſpoſition to propagate itſelf; the fever which ariſes from a connexion with the living human body, in a diſeaſed ſtate, multiplies with great activity; frequent ablutions, change of place, and change of clothing, under a dry, warm, and freely-circulating air, diſſipate the cauſe, but do not change the nature of the diſeaſe. The cauſe is condenſed, or rendered more powerful by ſtates of the air, connected with cold and moiſture; it is diſſipated and weakened by the oppoſite. It is not extinguiſhed by intenſe degrees of cold, but, if adhering to the walls of apartments, or lodged upon clothes, it requires heat and moiſture to call it into a ſtate of activity. It is more powerful in its condenſed, than in its recent and diffuſed ſtate.

Chap. IV. §. 1. *Caſes of Contagious Fever.*—§. 2. *Caſes of Endemic Fever.*

In this chapter, Dr. Jackson gives about twenty caſes of each kind of fever, as ſome of the vouchers for the general doctrines and inferences contained in the work. The cuſtom of giving a few caſes on occaſions ſimilar to the preſent, is ſo common, that we preſume Dr. Jackſon thought himſelf bound to comply with it; but we think it ſeldom tends to promote the cauſe of ſcience. It is almoſt impoſſible for any obſerver to detail caſes with a ſufficient degree of minuteneſs, for others to frame general principles from them ſo correctly as the obſerver himſelf. And ſince we conſider Dr. Jackſon's general principles and concluſions as the moſt valuable parts of his work, we ſhall paſs over theſe caſes with only obſerving that, for the purpoſe of enabling readers to deduce general doctrines, they are not related with a ſufficient detail of the doſes of medicine, ſtate of the heat, pulſe, or tongue.

At p. 147 in this chapter, ſome appearances of diſſection are given, of patients who died in conſequence of the endemic fever, but theſe point no further than to conjecture on the cauſe of death.

Chap. V. *Symptoms of Fever.*

"The general character of that claſs of diſeaſes denominated *febrile*, is not, perhaps, ſo comprehenſively and ſo explicitly defined in the writings of authors, as to include and expreſs every condition of febrile action.—The horror, rigour, and accelerated pulſe of authors, are only accidental circumſtances; but an impeded or ſuſpended—an irritated or irregular action—a changed condition of the ſtate of the moving fibre, ariſing ſuddenly and acting generally, marked by its effects upon the functions of health

health and vigour, seems to constitute the primary and constant feature of the operation of a febrile cause.*

"The cause of endemic and contagious fever is radically different, but the mode of action on the human body is in many respects similar. In describing the gradations and forms of this action, it will be convenient and useful to class the appearances, according to certain general and prominent features, usually combined together, and seemed to depend upon certain conditions, or primary modes of operations. The deviations from health, arising from the action of the cause of fever, are different in kind and degree, and are differently combined, but upon the whole, the principal modes may be referred to the action of the moving fibre, diminished in force and energy, suspended or impeded in the usual range of freedom, disturbed in time, more frequent or more slow; or to a mode of action irritated beyond the usual degree.

"These modes, besides being different in kind and degree, are also such as to deserve the name of general at one time, the name of partial at another; sometimes they appear generally in the whole body, though different in degree; sometimes more particularly in one system or series of parts, sometimes chiefly in one organ, or the functions of one organ, and at other times in parts of an organ only, and partially in its functions."—p. 162.

Sect. I.

Dr. Jackson then proceeds to enumerate the symptoms which occur in each variety of febrile action, and begins with the *contagious* fever, the symptoms of which, he thinks, may be naturally divided into *three classes*, viz.

Class I. In which *suspended or impaired action* is more conspicuous.

This class admits of two varieties, depending on degree.—1. Slight in degree.—2. Aggravated in degree.

Class

* Dr. Robertson states the general character of idiopathic fever in these terms:

"Whenever men on board a ship, or in a regiment, or any society or family, complain of being seized with chilliness, or alternate chills or heats, head-achs, sickness at stomach, universal pains, or as the sick express themselves, *pains all over them*; *or pains in all their bones, or joints*; *especially in their loins and back, with less or more debility*; and if their countenance is at the same time obviously diseased, whatever the other symptoms accompanying these are, I can, from experience, assure the reader, that a most virulent infection is present." p. 59.

On the causes of fever, Dr. Robertson says, "Whatever has a tendency to debilitate the system, may either be a remote or a proximate cause of fever, according to the constitution of the patients. A sufficient reason may be assigned for many people being seized with fever at the same time, which is, their being exposed to the same debilitating powers of heat, cold, drought, or wet; or sudden changes of these." p. 88.

CLASS II.—In which *irritated motions* predominate.

CLASS III.—In which *particular organs or functions* are deranged.

The symptoms in the *first class*, when *slight in degree*, are

"*1st. Slight in degree.* The commencement of this form is usually marked by a sense of disagreeable feeling at stomach, nausea, vitiation of taste, coldness of long continuance, an increased sensibility to cool air, or want of warmth, rather than horror or chilliness, dimness of sight, giddiness, dullness of perception, languor, pains and aching of the joints, impaired and feeble action of the limbs, a sad, desponding, and lifeless aspect of eye and countenance; the pulse is small, sometimes, when superficially attended to, seemingly not much changed from its natural state, carefully examined, appearing to be feeble, languid, and confined,—sometimes, but not always, more frequent than natural, sometimes, but rarely, more slow: the degree of heat is moderate; judged by the superficial touch of the surface and extremities, it does not seem to be above the natural standard—upon the hollow parts of the trunk, or on pressure, it appears to be pungent, though not strong: the state of the skin is usually dry, sometimes is clammy and greasy; secretions are impaired, with great deficiency of alacrity in the functions.

"The above foundations of derangement being apparent in the first twenty-four hours of the disease, the greater number of symptoms increase in degree, or suffer some change of form during the continuance of the course: the appearances of the tongue are irregular—sometimes the tongue is moist and little changed; sometimes it is rough and moist, or with a thin coat, firmly adhering, sometimes white, slimy, and foul; it is seldom dry in this stage of the disease, but it is not unfrequently covered with a ropy saliva, smooth, and without papillæ. Some degree of nausea is often present, but there is seldom any vomiting. The body is sometimes open, sometimes bound; when open, the evacuations are, for the most part, small and ineffective: there is usually an unpleasant taste in the mouth, or want of taste; almost always a dry or a greasy skin, a sullen aspect, a pulse not much changed in time, but feeble and unenergetic in the stroke; pain of the limbs and joints, like the achings in the cold stage of intermittent, sometimes tenderness of the touch; bad rest—dreams and wanderings often disturb the sleep. At a certain period, sometimes on the third, oftener on the fifth, and still oftener on the seventh day, these symptoms undergo a great and material change; the action of the system, particularly the action of the arterial system, developes, secretions are restored, and the signs of health return: or instead of health, a new train of morbid action commences. The cause, which had hitherto only in a slight degree impaired the energy of the vital functions, either by a sudden accession of power, or by an increase of aptitude in the subject, acts with vigour, and sometimes rapidly overwhelms life. Where the action is general in the system, the progress is usually more gradual, and the term of existence is longer protracted; where the action is partial, the function of parts become oppressed, and death takes place speedily.

"The signs of gradual extinction are chiefly found in a pulse, small, weak, sometimes frequent, and always feeble, wrapped up as it were in itself, retiring from the surface and extremities of the body, irregular, intermitting, and finally failing; in a corresponding decline and failure of animal heat, in a state of skin dry and impervious, sometimes greasy, clammy and dirty, sometimes purplish or livid; in secretions impaired or suspended; in drowsy torpor, but diminished sleep, with an imperfect possession of intellect. The tongue during this progress, particularly where the progress is not rapid, is often black and dry, covered with a sooty pellicle, sometimes smooth, clear, and glossy; the lips too are generally dry, and a black crust or pellicle sometimes covers the teeth and gums. Where the action is partial, the appearances are more irregular:—irritated motions are variously combined with suspended or diminished energies, and, according to circumstances, the symptoms are of

great variety, and in some respects opposite in their natures. In one case, the head is principally affected;—delirium, different in degree, and different in kind, occupies the ch[illegible] notice; in another, affection of the moving powers gives rise to a multitude of alarming symptoms, startings, tremors, convulsions, &c.; the chest suffers principally in one, so that the functions of the lungs become suffocated and oppressed; the stomach and alimentary canal have a great share of the sufferings in all and at all times; in the latter stages, these organs often seem to lose power in a more especial manner—the abdomen becomes inflated, involuntary purging takes place, accompanied, on many occasions, with involuntary or unconscious discharges of urine.

"It likewise happens frequently at this period of change, that, instead of cessation of disease, a new train of morbid appearances arise, which are different in aspect from the preceding, and lead, for the most part, to different issue; they are chiefly conspicuous in the changed action of the vascular system; the pulse, from small, weak, and confined, deep, and as it were sunk in the arm, becomes gradually open and full; the whole system seems to fill and expand, [illegible] tide of circulation flows freely to the surface and extremities [illegible] the bod[illegible] mind also becomes cheerful, and even gay, delirium of the gentle, bu[illegible]ely sort, is a frequent occurrence, and often appears to be [illegible] leading fea[illegible]e; sleep is sound, or disturbed only by pleasant fancies and wanderings, the energy of the functions is restored, the secretions resume their natural course, and marks of crisis are generally decided and final. During this gradual progress to health, the tongue is usually dry; a coat or covering forms upon it, becomes thick, and separates at the critical period, most usually the fifth or seventh day from the new train of action.

"2d. *Aggravated in degree.* Appearances, in the more aggravated degrees of this form of febrile action, vary according to the series of parts principally affected—the different shades are painted in the countenance. The signs of the commencement are not very different from those of other fevers, viz. disagreeable sensations at stomach, nausea, flatulence, listlessness, languor, feeble action of the moving powers, sense of cold, or want of natural warmth, head-ach, from heaviness and confusion, or maziness (as the soldier usually terms it) to a degree, which gives the impression of being knocked down by the blow of a hammer—a stupor like that of deep intoxication—a total inability of holding up the head. The appearance of the eye and countenance indicate strongly a material deviation from health, but an accurate picture is not easily conveyed in words: the eye is sometimes glossy; the look vacant and ideot-like, torpid, sad, and desponding; the countenance collapsed, dry, and withered, like a plant nipped by frost, or failing from want of rain,—sometimes flaccid and dirty, as if washed in greasy water—sometimes full, swollen, torpid, and inanimate, like a statue—sometimes lurid, dark, and grim, resembling a piece of mahogany; this last is often connected with heavy breathing, deep sighing, and stricture of the chest.

"The symptoms above-mentioned appear in the first twenty-four hours and increase in degree, according to their several forms, for different spaces of time—three, five, or seven days. The countenance, during this period, becomes daily more flaccid, withered, and dry, more dirty and greasy, more swollen and inanimate, more lurid and dark; in all there is a dusky hue, with a lighter or deeper shade of yellow; the changes of the eye observe the same rule of progress—the veins become large, and the motions are languid, with considerable changes of colour; the pain of the head, if severe in the commencement, is often changed at a certain period, to a sense of maziness or confusion, a want of power to command thought. There are sometimes mutterings and wanderings during the night, with want of sleep; but delirium (properly so called) is not common in this stage; where the course is rapid, it sometimes precedes convulsion; it is often the sign of change of action, and marks the commencement of a developement of the energies of the vascular system. The pulse in this form of fever does not offer much information to superficial observations; it is many times little altered from what it is in perfect

perfect health, ſometimes neither more frequent nor more quick, but generally, when minutely attended to, leſs expanſile, without force of contraction, or free dilatation; a want of energy of ſtroke, a deficit of irritability, ſeems to characteriſe it, when cloſely examined—curſorily noticed, it often ſeems neither ſmall nor weak. This nearly natural ſtate of pulſe continues, with more or leſs variation, for ſome time; at a certain period, it becomes frequent, quick and active, free and expanſile; or the torpor increaſing, it wraps itſelf up, withdraws from the ſurface and extremities, and finally fails. The ſtate of animal heat, another of the ſigns from which an opinion is uſually formed of the nature and degrees of fever, affords little remark to common notice. In touching the arm lightly, the heat ſeldom ſeems to be increaſed—in preſſing it cloſely, it is often found to be cauſtic and pungent, unpleaſant, and differing from the nature of warmth; it is deep-ſeated, irregularly diffuſed, concentrated about the præcordia, deficient in the extremities. The ſkin, correſponding with the aſpect of the countenance, is ſometimes dry and impervious, flaccid and withered, ſometimes dirty, greaſy, and clammy; ſometimes livid, and in a manner marbled about the tendinous parts, the knees, feet, and hands, beſpotted with petechiæ; on ſome occaſions, and on many ſore, or tender to the touch: gangrenous ſpots are not uncommon on the feet, hands, knees, noſe, and ears; extenſive and large mortifications ſometimes make their appearance on other parts; pains or aching, like thoſe in the cold ſtage of intermittents, are common and diſtreſſing. Some idea of the ſtate and progreſs of fever may be, and uſually is, formed from the aſpect and condition of the tongue. In ſeveral inſtances, the tongue does not appear to be materially changed, being moiſt, and with only a thin covering of mucus; in others, it is moiſt, ſmooth, and without the ordinary prominence of papillæ, —it is ſometimes rough, but cannot be ſaid to be foul; at other times it is covered with a mealy milk-white paſte, of different degrees of thickneſs; the mouth overflowing, at the ſame time, with a ropy ſaliva;—ſimilar alſo to the aſpect of the countenance, the tongue is ſometimes torpid in its motions, cold and pale, or large, ſwollen and livid, or lead-coloured. In the progreſs of the diſeaſe, the coat, by which the tongue is covered, uſually becomes thicker, ſometimes dry, rough, brown, and even black: about the period of criſis, termination, or change, this covering looſens and ſeparates at the edges, and at laſt through the whole extent; the tongue thus becomes clean; but if the diſeaſe runs on through another period, it turns rough, dry, often black, covered with a black cruſt or pellicle extending ſometimes to the teeth and gums; ſometimes it remains clean, ſmooth, gloſſy, red, and parched.—Thirſt often bears a correſpondence to the ſtate of the tongue and fauces; yet thirſt is ſometimes intenſe, without the correſponding appearance, or inconſiderable, where according to the ordinary rules it would be ſuppoſed to be great. The taſte is changed, or depraved; there is ſeldom a reliſh for food, though food, at leaſt ſpoon-meat, is ſometimes ſwallowed with indifference; nauſea is not uncommon, but vomiting is rare; yet vomiting ſometimes happens in conſequence of a change of determinations. The functions of the alimentary canal are much diſturbed; in ſome caſes there is coſtiveneſs, even reſiſting ſtrong purgatives, in others there is purging, but the evacuations are ſeldom effective, they are watery or ſmall; ſevere gripings or pains are not uncommon: fulneſs, tenſion, and inflation of the hypochondria, and, towards the latter periods, involuntary ſtools are among the ordinary appearances. Secretions are generally diminiſhed, and among theſe, the ſecretion of urine is ſcanty, with complaint of pain, and difficulty in rendering it. There is uſually a want of reſt in this form of diſeaſe, at leaſt a want of refreſhing ſleep, but anxiety, toſſing and change of poſture, are by no means common; there is, however, on many occaſions, a ſenſe of ſtricture on the cheſt, a dry and teazing cough, often alternating with affection of the head.

" The foundations of the above derangements being laid in the commencement of the diſeaſe, the ſtructure advances to a given point, with different progreſs. Sometimes on the third, oftener on the fifth, and oftener ſtill on the ſeventh, the action of the ſyſtem becomes excited, the powers of life emerge

emerge, and criſis takes place; or fever being in ſome manner ſuſpended, ſufferings abate or ceaſe, recovery goes on for a few days, when diſeaſed action recurring ſuddenly, life is overwhelmed or brought into danger; or further, inſtead of termination or ſuſpenſion of morbid action, the cauſe ſeeming to receive an acceſſion power, or a change of direction at the above periods, the vital energies become generally or locally oppreſſed, and death is the conſequence.

"Class II.—*Irritated Motions.* The primary action of the cauſe of fever is obſcure; but, at a certain and early period, action, irritated, irregular, and apparently increaſed, is ſo conſpicuous in the vaſcular ſyſtem, with unuſual commotion of the moving powers, as to characterize a form of fever, which deſerves particular conſideration from the multiplied variety of its appearances, and the numerous accidents which happen to life from its tumultuary diſturbances. The attack of this form of diſeaſe is uſually ſudden, the ſenſe of cold or even horror is conſiderable, and frequently alternates, during the firſt hours with ſenſation of burning heat; the head-ach is often intenſely ſevere, particularly the pain of the forehead and temples,—it is frequently preceded by giddineſs, vertigo, and temporary loſs of ſight; the eye is often muddy, confuſed, and red, ſtaring and prominent, it ſometimes ſeems to blink or ſhun the light; the countenance is fluſhed, or rather overcaſt and grim, often agitated and confuſed; tht tongue is generally foul, covered with a mealy or milk-white paſte, when moved it is ſometimes tremulous; the thirſt is great; the ſenſations at ſtomach unpleaſant; nauſea is not unuſual, and even vomiting occurs ſometimes; pains in the legs and joints are ſevere; pains ſhooting along the legs, ſhoulders and arms in repeated exploſions, or with ſenſations of gnawing, and as it were, tearing, are ſometimes extremely diſtreſſing; a general ſoreneſs or tenderneſs of the touch is not uncommon, in all caſes, however, different in its nature from the tenderneſs or pain of rheumatiſms; the uneaſineſs and anxiety are frequently great; agitation, tremors, ſtartings, convulſive motions, ſtricture of the cheſt, irregular evacuations of the bowels, with gripings, ſevere pains and ſpaſms are occaſional, but fluctuating ſymptoms; the ſkin is uſually hot and dry, when the ſkin is preſſed cloſely, the heat often appears cauſtic and fiery, deep, or concentrated; it is unequal in different parts of the body; the pulſe is uſually quick and frequent; irritation and motion are increaſed, but force and energy are wanting; the uſual freedom of the ſtroke is confined; ſecretions are irregular and generally impaired.

"Theſe ſymptoms, which appear in the firſt twenty-four hours of the diſeaſe, increaſe with ſome variety of progreſs to certain periods, at which time, changes or terminations, ſometimes favourable, ſometimes fatal, are obſerved to take place. The modes follow the ordinary rules in fever; in one caſe, the action of the vaſcular ſyſtem becomes vigorous, the arterial pulſations expand and final termination is the conſequence; in another, the irritated motions of the arteries abate, or ceaſe, the courſe of the diſeaſe ſeems to be ſuſpended, ſome portion of health returns; in ſome inſtances, imperceptibly eſtabliſhed, in others ſuddenly deranged, by a recurrence of morbid action: in a third, the irritated or increaſed action ſubſides rapidly, while the vital energies being exhauſted generally, or organs locally deſtroyed, death enſues with more or leſs variety of appearance. The different events are, in ſome meaſure, connected with certain days in the following manner:—in the more concentrated forms, the irritated action often ſubſides on the third day, ſometimes fatally, ſometimes, indeed, with hopes of returning health, but with ſtill greater ſuſpicions of ſudden and dangerous recurrence. In forms of ſomewhat leſs violence, the changes of the fifth have ſimilar iſſue. The ſeventh is the great critical day of regular fevers of moderate violence; the terminations are oftener final, or changes more diſtinctly marked than on the others; at this period the powers of life ſubſide rapidly, emerge ſpeedily, or a new train of action commences, in the progreſs of which the action of the vaſcular ſyſtem is developed, and health is finally eſtabliſhed.

"The appearances, in the fever of irritation, are as they might be expected to be, very irregular; pains and ſpaſms in different parts of the body are

 ſevere;

severe, the pulse is irritated, and sometimes excited to a high degree of action, the heat is ardent, caustic; and sometimes making an impression like actual fire, the thirst is great, the tongue dry—sometimes rough, foul, and black; starting tremors, convulsive twitchings, are frequent, the breathing is often oppressed, stricture and affection of the breast frequently alternate with delirium and affection of the head: vomiting sometimes occurs, prodigious in quantity and irrestrainable, accompanied with a small pulse and cold skin; on some occasions the same is the case with purging; the urine is suppressed, and sometimes it is bloody; the functions of the liver are also suffocated in some instances, or there are appearances of deep jaundice; hæmorrhage from the nose, though not common, sometimes takes place, and gangrene or blacknesses, sometimes of considerable extent, appear on the extremities, or other parts of the body.

"Class III. *Local Fever*. The cause of fever generally affects the system extensively, but on some occasions the principal action seems to be excited upon distant organs, or upon the functions of organs; the dysenteric and peripneumonic forms are the most common and the most formidable. In these forms, pains, spasms, and marks of irritation are sometimes conspicuous; sometimes, more particularly in the dysenteric form, the action of the arterial system is very little disturbed; the course of the pneumonic form is usually the most rapid, the dysenteric sometimes continues seven days or a fortnight, without very materially impairing the functions of the general system: but it is common to both, that the causes, which change or repress the local disease, seldom fail to disorder the existing economy of the frame: thus peripneumonic fever, or affection of the chest, is often changed to delirium, or affection of the head; dysentery changed, or suddenly repressed, is also followed by general fever, delirium, spasm, and convulsion.

The above are the more common forms and appearances of the fever, which prevailed among the British troops, in the different services on which the author was employed. It was remarked before, that the principal distinction of fever consists, in an assemblage or train of motions irritated to an unusual degree, or deficient in ordinary force and energy:—these are not however so pure and simple in all cases as here described; one character may be observed to prevail upon the whole, but it is more or less mixed on different occasions;—the motions, for instance, seem irritated in one part of the body, and torpid in another at the same time, and the aspect of the general mode of action changes repeatedly during the continuance of the disease. In the commencement the motions are sometimes greatly irritated,—the fever, in common language, runs high; at a certain period this irritation subsides, and a course of deficient energy or torpor ensues; on the contrary, torpor and deficient energy are sometimes conspicuous in the early stage; at a certain period the motions become irritated, the action is increased, the powers of the circulating system expand, and the energies of life are restored.

"It is not pretended to determine the causes upon which the varieties of disease action in fevers depend, but it will not be without use to notice the circumstances, with which certain modes are primarily connected, or from which they seem accidentally to change. In encampments, in cool and wet weather, under deficiency of clothing, tedious and irksome confinement, the *dysenteric* is often the most conspicuous form; this often ceases on removal to warm and dry lodging;—genuine fever then arises;—in crowded barracks, in crowded ships, among subjects depressed in mind, inactive in body, the form of ever is usually a form of *deficient energy*,—of longer and shorter duration, and greater or less intensity, according to a variety of accidents; in the most concentrated sources of contagion, as in crowded hospitals, the action of the cause is strong, sometimes representing in its attack, a

form of apoplexy, which, where the habit possesses little power of resistance, rapidly overwhelms life. Thus, upon those who live in confined air, and who do not exert themselves in body or mind, the cause of the disease seems to act by an operation of *depression or suspension*, and death takes place often without much struggle or disturbance; in those, who, exposed to the same cause, go abroad into the open air, and, more particularly, who are active in body and mind, the febrile motions are *irritated*, *irregular*, frequently increased in force, terminating in established re-action, or destroying the organization of parts by violence of effect. In crouded hospitals, where dirt, nastiness, and bad air prevail, the relapses of the disease are frequent; the forms indicate deficient energy in the general system, or local derangement from accidental weakness; the events are often unfortunate. Under the free ventilation of air, and the advantage of personal cleanliness, the action in relapse is irregular; pain, spasms, and purging, come suddenly, and suddenly cease; intermitting forms also occur often, but they do not observe the same regularity of period as is usual with pure endemics."

SECT. II. *The Symptoms of Endemic Fever.*

This admits the following distinctions, viz.

1. Into a form, where irritation, tumults, and excitement of the vascular system are chiefly conspicuous in the early period; local derangement and disorder of important functions in the latter.

2. Into a form of fever, where the action of the vascular system appears to be deficient or oppressed, the moving powers impaired in their energies, or rendered irregular in their motions.

3. Into the scorbutic, or low form: And 4. Into fevers of type.

I. "The *first* form occurs most commonly in vigorous and athletic habits, and it often occurs, under the circumstances of preceding desultory exertion, or transgressions of the rules of temperance. The invasion appears upon a general view to be for the most part sudden or instantaneous; but, upon accurate enquiry, languor, head-ach, or some obscure deviation from health, will usually be found to have preceded the formal attack, by twelve hours, sometimes by a longer space. Head-ach, if not actually the first, is among the first symptoms of this, as of other fevers; and the nature of the head-ach is different in different subjects; sometimes it is almost insupportable, confined more particularly to the forehead and temples, accompanied by sensations of tightness over the eyes, turgescence, and starting; sometimes the pain is more generally diffused, dull and obscure; but it, for the most part, differs from the head-ach of ordinary causes, though the difference is not easily defined. Head-ach is almost always present in the commencement, in some degree or other; it sometimes abates in the course of the first twelve hours, frequently in the first forty-eight, and almost always before the termination

mination of the third day. During the ſeverity of the pain, the forehead is ſometimes hot and burning, ſometimes cold and clammy. It happens alſo, and not unfrequently, that together with, or inſtead of head-ach, the attack is uſhered in by giddineſs, vertigo, drowſineſs, or ſtupor-like deep intoxication: fits of apoplexy, hyſteria, or tetanus, are obſerved ſometimes, but they are upon the whole rare, and by no means characteriſtic of peculiarity. The ſtomach, one of the organs primarily and principally affected in the commencement of fever, is for the moſt part peculiarly affected in the early ſtage of this diſeaſe; vomiting is not common, but nauſea, with a taſte of copper in the mouth, is uſual; as are anxiety, flatulence, and other diſtreſſes, not eaſily deſcribed, as not referable to diſtinct heads. The ſenſations of liſtleſſneſs, languor, and averſion to motion, common in the commencement of fevers, are preſent here, but have not any peculiar qualities. When the invaſion is ſudden, the debility or loſs of power is more complete. Alternate chills and fluſhings of heat are not unuſual; in ſome caſes they occur at intervals for the firſt twelve hours; the ſenſation is unpleaſant, but the cold is ſeldom ſtrong, or amounting to rigour; in others, chills are not perceivable, the ſenſation of heat prevailing from the beginning. Together with theſe, the eye and countenance are confuſed and agitated, the pulſe diſturbed, frequent, ſmall, heſitating, or ſeemingly oppreſſed under the immediate attack.

" The following appearances are noticed during the firſt twelve hours, though with ſome difference of order and degree in different ſubjects. The eye and countenance expreſs ſome marks of peculiarity, known to actual obſervers, difficultly conveyed in deſcription. The eye is ſometimes watery, ſad and deſponding, ſometimes agitated, red, and diſturbed, as if ſuffering from the ſmoke of green wood; the pupil ſometimes appears to be preternaturally contracted, ſometimes preternaturally dilated, but its appearances cannot be ſuppoſed to afford a criterion or diſtinguiſhing mark of the diſeaſe; the eye-balls are often much agitated, ſtaring, and protruded. The countenance is uſually, but not always fluſhed; it is generally clouded, agitated, expreſſing a ſecret ſuffering of diſtreſs, not indicated by other external ſigns. The tongue is generally white, ſlimy, and moiſt, ſometimes apparently clean, or covered with ſo thin a covering of mucus, that the red ſurface below ſhines through it, forming a colour reſembling that of lead, ſometimes it is ſmooth, it is ſeldom dry and rough. Thirſt is irregular and uncertain; where nauſea prevails, it is ſeldom great; yet intenſe thirſt and nauſea ſometimes meet together. The pains in the joints, limbs, and back are often ſevere and diſtreſſing; they reſemble pains in the cold ſtage of intermittents; the pains of the calves of the legs are ſometimes acute, the muſcles ſeeming to be in a certain ſtate of ſpaſmodic action. The pulſe is uſually frequent, ſmall,

confined, concentrated, or deep, as opposed to expanding and open. It is sometimes agitated, vermicular, confused in an uncommon manner, almost always it is much disturbed. The heat, during the first twelve hours, seldom appears great, if the skin be touched lightly; more closely pressed, the sensation of heat is caustic and pungent. The skin is usually dry; if damp, it imparts the idea of a spasm existing on the surface, for perspiration, with expanding pulse and relief from sufferings, rarely takes place. If the skin be moist, the moisture is clammy, as in agonies,—different from the warm and fluid moisture, which follows a relaxation of extreme vessels. To estimate this properly is a matter of some importance, in forming an opinion of prognostic. In those sweats, which terminate the paroxysms of the remitting fevers of natives or seasoned men, the pulsations of the arteries become full, expanding, and, as it were, rise to the surface; the perspiration is fluid, copious and general, with softness of the skin, and with the sensation as if a load of weight and distress were removed from the system; secretions are, in some measure, restored, and the countenance becomes to a certain degree cheerful and serene. In the abatements which take place towards the close of the first twelve or twenty-four hours of this disease, the appearances are often flattering, and sometimes so ambiguous, as to deceive an unexperienced practitioner; but the following marks will, in some measure, help to note distinction; the sweat is seldom copious and general; it is, for the most part, confined to the upper parts of the body; it is not usually fluid and free, but has something of clamminess joined with it; the pulse does not expand; on impression of existing spasm or confinement,—of imperfect dilatation and feeble contraction of the artery still remains. Yet, in some instances, the changes are so material, the relief so evident, that it is only after much experience, that a person is brought to doubt of the presence of remission; indeed, in people accustomed to climate, such abatements may safely be esteemed remissions, and acted upon as such; in Europeans, newly arrived in warm latitudes, they require to be regarded in a favourable light with much caution.

"About the termination of the first twelve hours, the tumult and agitation described above in some degree subside; the appearance of the eye, though not serene, is less wild, and expresses a sensation of relief; the violence of the head-ach diminishes, or the nature of the pain changes; the countenance brightens; the patient, even the physician, is often flattered with hopes of remission,—but they are fallacious hopes, and seldom of long duration. In the course of a very few hours, at farthest, the symptoms recur with aggravation, and with qualities in some respects differing from the preceding. The pulse which, during the first twelve hours, was usually small, frequent, irregular, or confused, becomes quick, hard, tense, more equal in

time

time and force, but confined, or without a free dilitation, or energetic contraction of the artery. The heat of the body, particularly on the head and trunk is burning, fiery, and concentrated; if the ſkin be touched lightly, it ſometimes does not appear to be uncommonly great—preſſed cloſely, it is often ſo intenſe, as to be indured with pain, communicating the ſenſation of actual fire, or of ſharp inſtruments darting into the fingers. Thirſt is irregular, much connected with the ſtate of the tongue and ſtomach; where there is nauſea, with a moiſt and foul tongue, it is ſeldom great, at leaſt, if there be a deſire of drink, there is alſo an averſion to the act of ſwallowing: where the mouth and tongue are dry, thirſt is generally intenſe. The pain of the head, which had in ſome degree abated, recurs again, but it recurs with ſenſations differing from the former; marks of increaſed determination are now evident, the pulſation of the temporal, and particularly of the carotid arteries, is ſometimes ſo violent, as to cauſe the head and neighbouring parts to ſhake; there is alſo, a ſenſe of fulneſs, weight and heavineſs through the whole head, ſometimes with drowſineſs and coma, but without the power of ſleeping; the recollection is confuſed, and not under command, but that derangement of the reaſoning faculty, properly called delirium, is a rare occurrence. The countenance is highly fluſhed, ſometimes dark and cloudy; the eye muddy and inflamed; the urine is ſcanty, ſometimes ſuppreſſed: the bowels are torpid difficultly moved by purgatives, or moved by ſtarts—the evacuations, watery and in exceſs do not afford relief; the ſkin is generally dry, and the heat is unequal—great in the trunk, as formerly obſerved—diminiſhed, or deep-ſeated on the extremities. Sighing, deep breathing, anxiety, and undeſcribable fidgetting, or deſire of conſtantly changing poſture, without complaint of pain, or ſpecified object, are common attendants of this ſtage of the diſeaſe; and theſe undefinable uneaſineſſes may be regarded as the ſureſt of the exiſtence of concentrated or yellow fever."

Want of room obliges us to refer our readers to the work itſelf for the remainder of this enumeration, as well as many important particulars in the following forms:—

II. "The *ſecond* form, as obſerved among Europeans newly arrived in the tropical regions, chiefly occurs among men who lead inactive and indolent lives, who are confined in the leſs pure air of crowded towns, crowded barracks, or crowded ſhips, who are under the impreſſions of ennui, chagrin, and fear, or who are conſtitutionally deficient in energetic exertions of mind and body. According to the natural qualities of the conſtitution, the accidental circumſtances of the individual or modification of the cauſe, the diſeaſe ſeems to be at one time characteriſed by ſevere local pains, ſpaſms, or tremors, by general and undefinable uneaſineſs or fidgeting—at another time by torpor, by indifference of mind, and impaired ſenſibility

bility of body. It is ſometimes ſudden in its attack, ſometimes gradual in its approach.—When it aſſumes the diſtinct febrile form, the leading circumſtances of its hiſtory are the following:—

" It uſually commences with giddineſs, even to blindneſs, pain of the head, faintneſs, ſickneſs, diſagreeable ſenſations at ſtomach, weight and oppreſſion, even nauſea and vomiting, pains of the limbs, knees, and back, a ſenſe of cold, ſometimes continuing for hours, but ſeldom amounting to the degree called horror; the pulſe, for the moſt part is ſmall, weak, and eaſily compreſſed, ſometimes, but not always, frequent, irregular, heſitating, and tremulous or creeping; ſometimes in appearance tenſe, or confined in volume, with an impreſſion of obſtruction; the animal heat on the ſurface of the body, is ſeldom greater than natural—the internal ſenſation far exceeds; the ſkin is uſually dry, if damp, it is unpleaſant to the touch; the feelings are uncomfortable; and the appearance of the eye and countenance indicates a deſponding mind;—the countenance is uſually dirty and lurid, ſallow, like a ſickly plant, or fading leaf: the eye ſad, but ſeldom inflamed; it is inanimate, and ſometimes gloſſy: the tongue is ſometimes covered with a white mucous coat, ſometimes ſo thin that the red colour ſhines through it, ſometimes of conſiderable thickneſs; it is ſeldom brown, and it is oftener moiſt than dry; ſometimes it is pale, and ſmooth and clean, the mouth abounding with a ropy ſaliva: the ſeat of the pain of the head is generally over the eyes, almoſt always in the forehead or temples, in many caſes ſo oppreſſive, as to occaſion ſtupor like intoxication; ſtranguary, or want of power over the urinary diſcharge, is not uncommon.

" The head-ach, for the moſt part abates, or ſuffers change of form, at the expiration of the firſt twelve hours; and where tumult and irration had been conſpicuous in the beginning, they generally diminiſh about this time, and partial ſweat, with temporary relief, enſues; yet this abatament is neither conſtant, nor of long duration, the ſufferings and diſtreſſes occur in a few hours, particularly the pain of the head, the unnatural appearances of the eye increaſe, the countenance becomes more dingy and greaſy, or flaccid, dry, and withered; the pulſe is ſometimes more frequent than natural, generally ſmall, and confined, yet in many inſtances it does not perceptibly differ from the pulſe of health, unleſs in want of energy and expanſion; the thirſt is ſeldom great, but the lips are uſually dry, the mouth clammy, and the taſte depraved; the tongue is for the moſt part covered with a white mucous paſte, generally moiſt; the ſenſations at ſtomach are unpleaſant; nauſea, anxiety, ſighing, and deep breathing are uſual. The ſtate of the ſkin, in this form of diſeaſe, deſerves remark,—it is dry, withered, and thickneſs by a rapid progreſs, becoming impervious, or in a manner cut off from the free current of circulation: the face of things proceeds then very much in one tenor: a torpor, or impaired

ſenſibility, poſſeſſing the functions, the progreſs to deſtruction is ſilent, and often unperceived."

III. In the *third* form, the prominent feature is, an aſpect of countenance dark and cloudy, as in ſcurvy.

"This form of diſeaſe appeared principally among thoſe who were removed from a more pure and cool, to a confined and immoderately hot air, whoſe habits were full, and who were reſtrained from the active uſe of their limbs. In this manner it was common under the removal of troops from poſt to poſt, or under the indulgences and reſt, which uſually followed military excurſions in St. Domingo.

"The formal attack is ſometimes preceded by heavineſs and oppreſſion, ſometimes the attack, from a high ſtate of health is ſudden and inſtantaneous; the ſymptoms are common to the claſs of fevers. Head-ach is among the firſt; it is intenſely ſevere, or heavy and oppreſſive, it is accompanied by giddineſs, faintneſs, often by an undefinable uneaſineſs; a ſenſe of cold is often of long continuance, but ſeldom amounts to horror; the pulſe is uſually frequent, ſmall, oppreſſed, and weak, or without energy of ſtroke; increaſe of heat is uncertain, and, where it is perceived, it is ordinarily of ſhort duration; the ſkin is dry—if moiſt, it is damp, unpleaſant, and greaſy—it is ſometimes preternaturally cool; the countenance is livid and of a duſky hue, dark, and overcaſt as in ſcurvy; the eye is uncommonly clear and gloſſy, of a pearly white, and vacant expreſſion; the thirſt is irregular, ſeldom much increaſed; ſighing and deep breathing are frequent; ſenſe of ſtricture or inability of expending the cheſt, without pain, is common; the general feelings are unſatisfactory, and pains of the loins and limbs are ſometimes ſevere: ſoreneſs of the fleſh is a frequent complaint; nauſea is not unuſual, and even vomiting ſometimes takes place, but ſeldom in a material degree; the tongue is rarely ſuch as is called foul, but it is often covered with rough ſaliva, and ſometimes with a whitiſh paſte; it is ſeldom dry; ſometimes it is clean, ſmooth, and without the prominence of papillæ."

IV. The *fourth* form, which includes fevers of type.

"The cauſe of endemic fever, continued, remitting, or intermitting, is one; but great variety is produced in the form, and manner of action. The diſeaſe, in the more violent forms is, or appears to be, continued in ſome ſituations; in others it is remitting and of regular type. In wet weather, and on ſwampy grounds, the endemic of the country is uſually remitting in form; and under this form exhibits appearances of jaundiced yellowneſs, of black vomiting, purgings of black matter, hæmorrhage from different parts of the body, petechiæ, lividneſs, &c. The tertian, or the compounds of the tertian, chiefly prevail; but, in ſeveral inſtances, a paroxyſm ſeems to continue for forty-eight hours without remiſſion; the third day is quiet, but

fever

fever re-appears on the fourth, from which period the type is ſometimes regular and diſtinct, with paroxiſms on the alternate days—ſometimes the powers of life are ſuffocated by the acceſſion; hence the fourth, or the morning of the fifth, is often a fatal day in the fevers of ſtrangers, whether continued or remitting. The ſymptoms of the paroxiſms are of the ſame form and kind as where the form is continued, or without remiſſion; they ſubſide at a certain period, and at a certain period re-commence, going on for a limitted ſpace of time in this alternate action, and ceſſation from action. The circumſtances connected with theſe alternate ſtates of morbid action, and ceſſation from action, throw a great deal of light on the general operation of febrile cauſes.

" Correſponding with the firſt form of continued fever, the ſymptoms of the paroxiſm of the remittent are violent, with great irritation, and ſtrong action of the vaſcular ſyſtem, an ardent pungent, and ſometimes an exceſſively cauſtic heat, ſevere local pains, anxiety, reſtleſſneſs, anguiſh at ſtomach, nauſea, ſickneſs, vomiting, hurried reſpiration, ſevere and diſtreſſing head-ach, pain of the eyes, delirium, &c. Theſe ſufferings abate at a certain period, but they do not often terminate by copious perſpiration; they recur, ſubſide, and recur again at intervals, till a critical period arrives—frequently the ſeventh day, when they ceaſe finally, or ſigns appear of a fatal termination. During this courſe, ſymptoms often ariſe, ſimilar to the ſymptoms of the concentrated continued fevers; the ſkin becomes dry, dingy, and withered, jaundiced yellowneſs makes its appearance in the eyes, black vomiting ſometimes takes place, and in many inſtances hæmorrhage, or exudations of blood from different parts of the body—moſt frequent the tract of alimentary canal.

" A mode of action is alſo diſcovered under remitting form, in ſome manner correſponding with the ſecond form of continued fever. The pulſe is frequent, ſmall and low, eaſily compreſſed; without energy and force; the ſkin cool, damp, and greaſy, or dry, withered and duſky; the head-ach frequently ſevere, the countenance inanimate and depreſſed, reſtleſſneſs is conſiderable, with anxiety at ſtomach and uncomfortable ſenſations; ſometimes the alimentary canal is principally affected; there is thirſt, a dry tongue, vomiting or purging returning at periods, but in no extraordinary degree of violence; upon the whole, the indiſpoſitions ſeem ſlight, the patient walks about, neither well, nor to common apprehenſion, materially ill. At a certain period, frequently on the fifth, ſometimes on the ſeventh day, the nature of the action changes or becomes more intenſe in degree; the head is affected with coma, ſometimes with a muttering delirium, the pulſe becomes weak and ſunk, the action of the fibre is impaired, in ſome manner ſuſpended: a ſpecies of paralyſis takes place, the heat ſinks below natural. This mode of action continues twelve, ſometimes twenty-four hours; the

 powers

powers gradually emerge, and are again oppreſſed by a ſimilar ſuſpenſion. Sometimes the animal heat is, in a manner, extinguiſhed, the pulſe totally ſuppreſſed; a mode of action which ceaſes and returns at intervals, and is known to be leſs fatal than threatening, by certain ſenſations of eaſe and quiet,—the ſerene and cheerful eye and countenance which accompany it.

"The remitting alſo appears, in many inſtances, under a mode of action correſponding with the third form of continued fever. A livid dingineſs overſpreads the countenance from the commencement of the diſeaſe, a general torpor marks the exiſtence of the paroxiſm; the blood ſeems to ſtagnate in the extreme veſſels, particularly under the nails, where a blackneſs, like a blemiſh, grows out in recovery; important organs, the lungs or brain, are often oppreſſed during this action of the febrile cauſe, and death is the conſequence; when this is not the caſe, the powers of life emerge, till the renewal of the action produces a ſimilar ſuſpenſion, and frequently a fatal termination. This is the ordinary courſe in the more intenſe degrees, under the operation of powerful cauſes; in more common circumſtances, the commencement is ſlight, the type is regular, and remiſſions, though not terminated by copious perſpirations or other evacuations, upon the whole diſtinct: about the fifth or ſeventh day, a change of action takes place; the powers of life are in a manner ſuſpended, or a great degree of torpor, in all the animal actions, ſupervenes; the circulation is heavy and oppreſſed, the countenance duſky and grim, dark, like mahogany, often greaſy, damp, and dirty; general torpor and diminution of all the ſecretions mark the period of the paroxiſm; theſe oppreſſions vaniſh, in ſome degree, after twelve or twenty-four hours, and again return at a given period.—Such a form of diſeaſe is frequent in the more unhealthy ſituations of St. Domingo, in the ſummer and autumnal months: it occurs occaſionally in the more healthy, in the months of October and November."

CHAP. VI. Contains ſome appearances obſerved on diſſection.

In the next chapters, Dr. Jackſon compares the characteriſtics of endemic and contagious fever, and lays down the prognoſis in each; he makes a few obſervations on critical days and proximate cauſes.

CHAP. XI. *On the* CURE *of Fever.*

This part of the ſubject does not appear to be ſo much indebted to our Author as ſeveral of the preceding. A talent for obſervation and deſcription, joined to ſuitable opportunities, may always improve the ſcience of medicine, by furniſhing the requiſite data. Dr. Jackſon has availed himſelf of theſe; but on the method of cure, he ſays, "Medical ſcience has in general advanced; ſome parts of it have made conſiderable progreſs, but the cure of fever appears to be ſtationary, if not retrograde. Books have been written upon the ſubject without number; infallible methods fill the pages of

of authors, and important diſcoveries are communicated in every new publication; yet, men die, as in the days of ignorance. The cure of fever, it muſt be acknowledged, is difficult, and capable of little perfection, in the ſtate of progreſs at which the diſeaſe is uſually ſubmitted to the care of phyſicians. But though difficult, it might be preſumed, that ſomething could not well fail to be diſcovered, from the unwearied reſearch of writers. The ſubject has filled volumes, yet it does not appear that a general principle is attained: the reſult, conſequently, is a maſs of contradictions—a collection of opinions, not always candidly and ingenuouſly repreſented. The author of this outline has felt the inconvenience, and now ventures to ſuggeſt ſome hints, which he hopes may in time lead to a remedy:—the laws of health are uniform and regular—even diſeaſe obeys a rule. If the preciſe form of diſeaſed action could be aſcertained, the method of cure might be laid down upon a ſure foundation: this unfortunately is not the caſe; but even the knowledge of a principle, by which this action may be inverted, is of value. It implies, it muſt be confeſſed, an experiment apparently at random, but, under certain conditions, an experiment of ſafety.

"According to the manner in which the author has long viewed this ſubject, the plan of cure divides itſelf into two parts; viz. into the cure of a fever forming—and into the cure of a fever formed. In the firſt, art is capable of doing every thing; and it conſequently ought not to leave any thing to nature:—in the ſecond, a form of things has taken place, or a chain of operation is eſtabliſhed, which can ſeldom be broken forcibly, conſiſtent with ſafety to life; art can do little, and the little which can be done, requires caution and judgment; for, to act and not to do harm, under ſuch a condition of things, is not ordinarily a matter of indifference.

"The cauſe of fever, whatever it may be, or whatever may be the direct mode of its operation, viſibly and indiſputably changes natural and healthy action, generally or locally, into action diſeaſed and unnatural.—To invert this operation, to originate a new train of motions, analogous to thoſe of health, is the fundamental principle of cure: and this much is certain, that if the object be undertaken at the proper period, the plan judiciouſly laid, and followed up with vigour, the end ſeldom fails of being attained. Decided practices, of whatever deſcription, ſucceed; and the complete and perfect recovery of health is often the effect of directly oppoſite means; on the contrary, if the early period of diſeaſe be paſt, ſo that the organization of parts is injured, or deeply impreſſed with a figure of unnatural action, the conduct of the cure is a matter of great nicety, and requires great caution; the indications fluctuate and vary according to circumſtances: ſymptoms, or modes of action, which threaten danger to life, will then be watched and warded off; but termination, or decided cure, muſt be left to the

the periods of change; for though crisis, by judicious exertions sometimes actually is, and often is capable of being rendered more complete than it otherwise would be, it is doubtful to what extent it can be accelerated.— These periods of change, are important to the physician; and in fever, completely formed or advanced in course, must principally regulate his conduct."

Dr. Jackson first treats of the cure of *contagious fever*; and in Sec. II. p. 263. of the cure of endemic fever. The principal novelty in the treatment of both, consists in attempts to cut short the progress of morbid action, or dissever the half-formed morbid associations in the commencement of the disease.

This is attempted, according to the nature of the fever, and the state of the patient, by V.S. emetics, calomel, blisters, fomentations, and above all, by suddenly contrasting the hot and cold bath.

After the fever is completely formed, the cure recommended by Dr. Jackson does not materially differ from that of other authors.

The extracts we have given from the descriptive part, are doubtless sufficient to convey an idea of the originality, accuracy, and depth of research of our author: we trust they are sufficient to induce our readers to consult the work itself.

A Comparative View of the Modern Medical Theories, &c.

By N. P. GILBERT.

[*Concluded from our last Number,* p. 360—363.]

IN Germany, HAEN and STOLL shared the public opinion; both were incessantly employed in simplifying the materia medica, and both contributed to the banishment of that prodigious number of medicinal substances which had obtained so much credit in that country; but the authority of BOERHAAVE was still the only one that could be relied on with safety. It has been said, and with some truth, that one of the traits which chiefly distinguished that great man, was his having inspired those who adopted his doctrines with an enthusiastic veneration for his opinions.

In Great Britain, the genius of CULLEN long since prepared a revolution in medicine. At the instant his works appeared they attracted every mind by the eloquence, the method, and the force of reasoning of the author. For definitions always imperfect, he substituted descriptions, pictures which HIPPOCRATES himself would not have disowned, a nosological method, a model of precision and perspicuity, which deserved to be placed above that of the celebrated Sauvages, of which it is nevertheless only the counterpart;

part; but Cullen, that excellent practitioner, that accurate nosologist, cou not guard himself from the mania of explaining the proximate causes diseases. From this time he abandoned the path of observation, and wandered in his turn into the boundless field of ætiology. After having overturned the physical and chemical laws of Boerhaave, and the psychological laws of Stoll, he declared in favour of HOFFMAN; he placed his theory in a new light, or rather improved upon his ideas without introducing them into his work. In the mean time, his reputation was not confined to England, his works crossed the seas, and were received with enthusiasm in the most celebrated universities of Europe. In France, at this period, a medical system prevailed, without doubt the most perfect, as it admitted in the animal economy a principal preserver and restorer of the functions, to which all the spontaneous movements appear to be attached in the states of health and disease. This sublime idea of the *vis medicatrix* of nature, acknowledged by HIPPOCRATES, but which the sectaries had either overlooked and despised, and which was represented under distorted forms by the impetuous VAN HELMONT, afterwards reproduced by Stoll, under the idea of the intelligent principle, and revived by Cullen, under the title of reaction of the system, and at length reduced to its true state by the interesting labours of the French physicians, ow[illegible] its reputation and glory to the powerful influence of philosophy, and the analysis of the sciences, literature, and the arts. Indeed, this doctrine was acquired by assiduous labour; in referring to the system of Hippocrates, it imposed the law never to swerve from the path adopted by that great man; but at the same time it fatigued the indolent and disgusted the superficial.

These difficulties procured the theory of Boerhaave a great number of proselytes. Such was the state of medicine in France when the revolution, that immense movement of persons and things, suddenly occupied the minds of men. At that time, a new medical theory was framed in France, which, about seven or eight years since, was introduced in England, where it obtained great credit: it was from thence transferred to Germany, where it apparently acquired the most brilliant reputation, and was finally received in Italy with an almost general enthusiasm. I allude to the Brunonian theory. It would be difficult to say upon what foundation it has been possible to present it as a new doctrine; for, in establishing excitability as a peculiar faculty for the exercise of the functions of the animal economy, BROWN has only united in his system, irritability and sensibility,—properties of the human being so admirably delineated by the illustrious HALLER, and the inestimable DE CEZE.

What have rendered this doctrine interesting are, the invaluable advantages which it holds out to man in a suffering state, in delivering him from every tedious

ſious and painful method of cure, in regulating, at all times, his ſenſitive powers and inclinations. This doctrine is likewiſe ſeducing, by the extreme ſimplicity which it pretends to have introduced into the curative art; ſince by it the whole of medical ſcience is reduced to the following ſimple propoſition:—Excitability is the property which characteriſes life. Excitement, or the action of the living powers, conſtitutes perfect health by conſuming only a certain due portion of excitability. Too violent an excitement, by waſting too readily the excitability, generates inflammatory diſorders and requires debilitating medicines. Too weak an excitement, by accumulating excitability, produces diſeaſes of debility, and renders the uſe of exciting medicines neceſſary. In whatever ſtate of the body, whether healthy or diſeaſed, there always exiſts either too ſtrong or too weak an excitement. Hence there can be only two ſpecies of diſeaſes, two methods of treatment, two kinds of medicinal ſubſtances; ſuch, in a few words, is the baſis of the theory of Brown. But can we admit a doctrine which conſiders life as a forced ſtate, which does not acknowledge the automatical action of nature in diſeaſes? Can we admit the truth of a doctrine, which reſts entirely on one ſingle property of the living ſubject, and which depreciates all the dogmas it profeſſes reſpecting the hypothetical eſtabliſhment of a ſingle principle?

It is too true, that the theory of Brown could not ſuſtain the ſhock of a profound diſcuſſion, and that his moſt violent adverſaries have ſtarted objections to him, which ſtill remain unanſwered. Nevertheleſs, if it lead to practical obſervations, if it approach to the true method of making medical obſervations, if it admit of being compared with theſe, the doctrine of Brown is only to be looked upon as a collection of propoſitions, applicable to practical medicine. How many important truths has it not reſtored to mankind, which would otherwiſe have been conſigned to oblivion? What a ſubject for meditation is offered to clinical medicine, by this elegant diſtinction of weakneſs into abſolute debility, feebleneſs of infancy, cauſed by a too faint ſtimulation of the accumulation of excitability; and by indirect weakneſs, or the exhauſtion of the power of excitement, the melancholy and too common conſequence of debauchery, and the abuſe of the ſenſual paſſions? What lights will not clinical medicine receive from this diviſion of diſeaſes, from ſpecific actions in which the whole affected ſyſtem calls for general remedies, and in local internal maladies; of various ſyſtems which only preſent ſpecial indications to be anſwered. If the dangers of repeated purgatives in intermittent fevers, if the neceſſity of a ſtimulating medicine, in moſt chronic diſeaſes, be at this time inconteſtable points of doctrine, it is perhaps to the theory of Brown, that we are indebted for theſe fortunate changes in the practice of phyſic. Hence it is true, that this theory, which by the vague generalities which it propoſes for practice, by the introduction of whimſical ideas, by the obſcure,

obſcure, and often enigmatical language, which it gives riſe to; did not appear worthy a place among the ſyſtems of medicine, which perhaps will again be conſulted with pleaſure, with intereſt, and with utility by philoſophic phyſicians; and may yet afford them great aſſiſtance in the curative art.

The application of modern chemiſtry, to pathology and therapeutics, or rather that part of the ſyſtem of the ſcience of man, which is connected with chemiſtry, in the different ſtates of health and ſickneſs, is what remains for me to examine. The author of this new theory, is a much-reſpected phyſician, whoſe labours have conſiderably enriched medical literature, and thrown much light on the practice of phyſic. The following are a few of its principles.

The various actions of life preſent, in organized bodies, an uninterrupted ſucceſſion of fluids throughout them of fluids in ſolid bodies; now theſe changes cannot operate on the ſubſtances, which enter into the compoſition of the living ſubject, without altering the conſtituent ſtate of the elementary materials of all thoſe ſubſtances. Hence it appears, that oxygen, hydrogen, carbon, phoſphorus, ſulphur, azote, and lime, are thrown out every inſtant by health and diſeaſe, and form new combinations, which may tend to determine the principal cauſe or nature of pathological affections. Thus, the inflammatory diſeaſes of Stoll, or, which is the ſame thing, the ſthenic diſorders of Brown, are, in the theory of GIRTANNER, of ROLLA, and of BAUMES, only a perfect ſuperoxygenation of the living ſyſtem, a quick combuſtion, accompanied by its ſenſible phenomena, the diſcharge of caloric, the production of a very intenſe animal heat, and an increaſed energy of the vaſcular arterial ſyſtem. The author ſupports his doctrine on ſeveral poſitive experiments made by BERTHOLET, FOURCROY, CHAPTAL, PARMENTIER, DEYEUX, and VAUQUELIN, to whoſe labours true chemiſtry is under ſuch great obligations. Hence ſcorbutic diſorders, which, according to the doctrine of Stoll, only introduced the ſeptic change of the animal fluids, but according to Brown, which are only the produce of the laſt ſtage of direct aſthenia, are, in the language of modern chemiſtry, a greater or leſs diſoxygenation of the albuminous juices.

If the portion of oxygen neceſſary to the maintenance of life, decreaſe; if this principle of irritability is weakened, being ſubject to new combinations in the elementary materials of the living body, it cauſes a ſuperabundance of hydrogen and carbon.

The elements of bile then predominate in the blood; bilious fevers are the conſequence, always accompanied by that kind of acrid heat, which diſcloſes the preſence of carbonated hydrogen. Such is the new theory of putrid diſeaſes.

In ſeveral other pathological ſtates, phoſphorization has a powerful in-

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ence. This agent is known to be the generative cause of several diseases of the bones, as rheumatic and arthritic affections, the ætiology of which has hitherto remained undiscovered. The therapeutic art has also been submitted to this chemical theory; we need only acknowledge in medical substances the superoxygenates, the disoxygenates, the hydrogenates, the azotes, the phosphorates, &c. &c. &c.

However ingenious this theory may seem, it has this great defect, that any direct comparative experiment made on the living subject in a state of health or disease, will not conduce to its establishment; besides, it reproduces, in an indeterminate degree, the system of humoral pathology of which philosophic physicians had wisely circumscribed the bounds; the explanation of phenomena does not devolve on any fact incontestibly established; but that which will probably prevent the admission of it by physicians, is, that it deprives the animal economy of its greatest and most distinctive character, VITALITY, that principal preserver and renovator of beings, that wonderful quality which sustains them against physical power which continually tends to their decomposition, which acts independent of mechanical, physical, or chemical laws, and which leaves no other traces of its presence in the body than what is exposed by the motion of life. It is true then, that an ætiology, that a chemical nosology, with difficulty explain the state of the animal economy, in the various affections which can produce any change in the soundness of its functions; yet, if we draw this medical theory from observations; if we are contented with regarding it as a combination of experiments, of analogies, and of analyses, from which the curative art might reap advantages, how many ingenious essays, brilliant discoveries, happy resources, views really useful, salutary medicinal preparations, advantageous modes of healing, have not the labours, the genius, and the application of so many celebrated chemists produced in the course of a few years? of the birth of whom, France, England, Germany, and Italy, claim the honour.

The analytical details into which I have just entered relative to the actual medical theories, clearly prove,

That every medical theory which is founded on an hypothesis, ought to be banished from amongst the number of useful discoveries in medicine.

That the greatest misfortune which can happen to a patient, is to fall into the hands of a physician bigotted to a particular system, however ingenious he may be, or whatever conformity there may apparently be between the facts and the explanation which he gives of them.

That it is not medical theory which can furnish to the philosophic physician, any subject for useful observations.

That the character of a real physician is, not to attach himself exclusively

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to any particular theory; but to investigate all, and to collect such advantages as they may offer, by comparing them with medicine of observation; that it is this which may be called medical electrism.

This great art of extracting, from all the modern systems, a medical doctrine, which might contain nothing but what any one of them may declare to be useful, would at the present time demand the re-union of the greatest talents. The character of a consummate physician, an indefatigable chemist, a philosophic observer, an exact anatomist, a practitioner of great experience, an erudite author, an eloquent writer, a profound thinker, all ought to be concentered in him. Such was Boerhaave, when he laid the foundation of his Medical Institutes, and immortal Aphorisms; a work in which ability is united to method, and the art of writing added to conceptions of the most extensive genius. If the discoveries of subsequent times have brought back every mind to the doctrine of Hippocrates, to medicine of observation, Boerhaave has not the less preserved all his rights to the veneration and esteem, even of those who have substituted in lieu of his theory, a philosophic doctrine more worthy of the present age.

Hence it becomes the duty of every medical student, to reconcile by his essays and by his exertions, according to his wishes, the time when simplified medicine may be reduced to an elementary, concise, and rational method, proper to direct instruction and enlighten practice. It is the duty of medical societies, eager to concur in this great undertaking, to encourage every work, however imperfect it may be; because, they tend to re-animate emulation, to excite zeal, to light the torch of genius, and thus become the auspicious commencement of a complete production. Such are the motives which have induced me to trace this faint sketch, in which I have endeavoured to do justice to the Medical Society.

The press of new matter, in our last Number, prevented us from continuing the analysis of Mr. JAMES PARKINSON'*s useful work, entitled, "Medical Admonitions," of which we gave a short account in our third Number, p.* 310; *and which, according to our promise, we now resume.*

THE author treats of all the diseases and accidents common in this country, in a concise and perspicuous manner; adding such advice and cautions as are best calculated to answer the intentions expressed in the title-page.—As specimens, we select the following passages.

The malignant ulcerated sore throat, p. 116.

"As the fever increases, grey or ash-coloured spots appear on the uvula, tonsils, &c. these extend themselves, in proportion to the violence of the disease; frequently spreading and running one into the other, with the utmost rapidity, the debility becoming excessive, and a continual discharge of a thin acrid humour, taking place from the nose and mouth, corroding both

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both the lips and nostrils. As the disease proceeds the greyish crusts are discovered to be deep gangrenous sloughs; the breath becomes exceedingly offensive, and the disease soon increases to such a degree, unless happily opposed by successful means, as to carry off the patient, sometimes, within the third day after the attack.

From this slight sketch, the domestic practitioner must be apprised of the malignity of this disease, and the rapidity of its progress; and he may also be assured, that he will not always be able to distinguish it, at its first attack, even from the inflammatory sore throat. A mistake here would not only occasion an omission of the proper remedies, but the employment of such means as must necessarily very much expedite a fatal termination."

The croup, or inflammation of the wind-pipe, p. 122.

"The exquisite degree of danger which always accompanies this disease; the rapidity with which its symptoms proceed, and the probability of its escaping a sufficiently early detection, will induce me to be rather diffuse in its description; hoping, that parents may thereby be enabled to discover it immediately on its appearance, and be induced to apply for medical aid in the first moments of the disease."

Then follows a very correct enumeration of the symptoms of croup, particularly those which occur at its commencement; to which we refer our readers.

Hydrocephalus, or watery head, p. 440.

"No one, surely, can hesitate for a moment, in believing that the treatment of this melancholy disease ought only to be confined to the most judicious and experienced. I shall, therefore, only mark out those symptoms which ought to arouse the attention of the parent, and occasion him immediately to call in the most powerful aid; and point out some circumstances by an attention to which, this malady may, perhaps, be sometimes prevented.

"This disease generally occurs within the first ten years of life; sometimes the complaint comes on suddenly, but in general it commences with a slow fever; and is indeed accompanied, in its beginning, by such symptoms as to render it very likely to be mistaken for an attack of the slow nervous fever. Soon, however, the disease is rendered more manifest, by a disinclination to employ the muscles on which voluntary motion depends.

"The arms and legs are moved with reluctance, and the fatigue of preserving the body in an erect posture is such, that the patient is always desirous of being laid down; the pain in the head is more constant than in the low nervous fever; and the heaviness and dullness more evident: the pulse is also usually very slow and irregular. As the disease proceeds, the pulse becomes quicker: the child's senses and faculties become evidently impaired, the sight particularly fails him, objects appearing exceedingly indistinct, and the pupils of the eyes are constantly dilated. Towards the close of this melancholy scene, the urine and stools are passed involuntarily; total blindness comes on, and a fatal termination takes place, while the patient lies in a comatose state, or whilst agitated with severe convulsions.

"I here conclude the task allotted me, hoping that, notwithstanding its imperfections, this little work may prove of real utility. Your candour will, I trust, prevent you from inferring, from my philippics against domestic quackery, that it is my wish to lessen the diffusion of useful knowledge. Indeed, on the contrary, I am confident that the best and most effectual mode of checking the career of empiricism would be, by more frequently admitting

admitting the study of anatomy, phisiology, pathology, and chemistry as part of a liberal education." p. 497.

A concise Analysis of Professors HÜFELAND *and* KANT'S *Treatise on the Art of prolonging Life.*

[Concluded from our third Number, p. 259—263.]

ADVANCED age, though it be the natural result of life, and the first step towards death, may nevertheless of itself become the means of prolonging life. It is true, it does not increase the principle of vital spirits, but it retards their consumption; and it must be allowed, that man would sooner terminate the last period of his life, at the time when he suffers a diminution of his natural powers, if he did not, at the same time, grow old. It now remains to explain this assertion, which is apparently paradoxical.

In the decline of life, man is least provided with vital spirits, and with the faculty of restoring those which he daily loses; if, in the mean time, he continue to live in the same active state, and possess the same vivacity as formerly, the spirits will be the more readily exhausted, and he will the sooner terminate his life; but the character of the present age diminishes the effect of natural irritation, and of the sensitive faculty. Interior as well as exterior objects, do not strike him so forcibly; consequently, he exhausts a less quantity of power and energy, and therefore advances still farther with that portion of power which remains; and if he lives temperately, his life will be prolonged. It is to this reduced degree of irritation, that the present age owes the faint effects of dangerous impressions, and the causes of disease; such as passions, violent exertions, &c. It maintains a greater degree of harmony and calmness in the interior economy, and by that means fortifies the body against various accidents. On this account also it is remarked, that old men are less subject to epidemic attacks than young persons. To this may be added the manner of living, which incontestibly contributes, in a great degree, to the prolongation of life. The operations of the animal economy, which have continued during so long a time, in the same order and manner, become at length so habitual, that they are carried on, as it were, by habit alone, when other causes cease to exert their influence. It is often astonishing, to see how individuals of a very advanced age, continue to support themselves during a certain period, in such a manner, that the whole system is supported in a progressive regular order. When the moral powers of man are almost completely annihilated, his physical faculties continue to vegetate some time longer; the latter of which, doubtless require less of vital supply than if he existed in an integral state. It is also this state of life which makes a man wish to live longer as he increases in age. We may venture to add, that this desire becoming every day more ardent, and consequently cherishing hope, supplies, perhaps, still more the loss of vital spirits, which, as HUFELAND has somewhere remarked, increase with hope.

The system of regimen to be followed is, to diminish exsiccation, and to soften the stiffness of the fibres, the contractility of which is liable to be totally suspended. It is necessary to facilitate the restoration of losses and digestion as much as possible. A greater degree of irritation should be given to the body, since the natural irritability is considerably diminished. The secretion of the putrid miasmata ought to be promoted, which in old age is so imperfectly formed, and which attracts that impurity of humours that

that contribute to a ſpeedy diſſolution. From theſe principles are derived the following rules:

1. In old age the natural heat fails; it is conſequently neceſſary to ſupport it as much as poſſible, by means of external objects, warm clothes, warm apartments, warm beds, nouriſhing food, and alſo, if poſſible, a temperate climate.

2. The food ought to be ſuch as is eaſy of digeſtion, rather liquid than ſolid, of a concentrated ſubſtance, and more ſtimulating than was formerly conducive to the welfare of the individual. Hence jelly broths, ſeaſoned with ſpices, are of great benefit to old perſons: give them roaſt meat, well done, beans, peas, and other nouriſhing pulſe, ſtrong beer, and above all, plenty of good old wine, which does not contain acid, earthly particles, or viſcidity, ſuch as old Spaniſh wine, Tokay, Cyprus, and Cape wine. Such wines are to them one of the greateſt reſources of life; they do not overheat, but nouriſh and ſtrengthen the aged; in fact they are the balm, the real milk of old age.

3. Tepid baths are of great utility: they are among the beſt means of augmenting the natural heat, of promoting the ſecretions, particularly cutaneous perſpiration, and of ultimately diminiſhing the exſiccation and rigidity of the fibres and membranes. They anſwer almoſt all the neceſſities of this period of life.

4. All violent evacuations ſhould be carefully avoided, as venefection, (unleſs in particular urgent caſes) violent purgatives, as well as ſenſible perſpiration, the ſexual intercourſe, &c.

5. As ſoon as a perſon attains an advanced age, he ought to accuſtom himſelf in a great degree to arrange all his functions of life, according to certain order; he ought to reſt, take exerciſe, eat, and drink at regular periods. This order, this mechanical habit of living, contributes in a remarkable degree to prolong life.

6. The body requires exerciſe, but great care ſhould be taken, not to make uſe of any that may effect or exhauſt it; a paſſive ſpecies of exerciſe ſhould be preferred, ſuch as riding in carriages, repeated friction, with odoriferous and tonic ointments, which diminiſh the ſtiffneſs of the fibres and keep the ſkin in a healthy ſtate. But above all things, care ſhould be taken to avoid ſudden alarms or ſhocks; ſuch are commonly the forerunners of death.

7. A cheerful temper, and agreeable amuſements, produce a wonderful effect on the human body, provided they do not partake of the ſtronger paſſions, which, in an advanced age, may produce effects inſtantly fatal. What are moſt beneficial, are, liveline∫s and contentment, the effects of domeſtic happineſs, which are enjoyed by reflecting on the paſt; by perceiving that we have not lived in vain, and even looking towards death with ſatisfaction.

The fooliſh games of childhood, and the ſociety of children, are moſt agreeable to old people. Their infantine queſtions, their innocent joy, ſeem to have a renovating effect upon age. Hope and future proſpects are expedients particularly uſeful; new plans, freſh undertakings (provided they contain nothing dangerous or embarraſſing,) in ſhort, every thing which tends to encreaſe the expectation of a ſtill farther prolongation of life, all contribute to extend its phyſical limits. We find alſo, that in old perſons, this is an inſtinctive idea; they begin to build, to arrange their gardens, and appear to take a ſingular delight in this faint illuſion, from which it may be inferred they wiſh to inſure their lives.

Or

On the Practical Study of Botany, by Means of Chemical Analysis:—Chiefly abridged from the Original Papers of Dr. T. S. Hermbstaedt, &c.

[Concluded from our last Number, p. 377 to 381.]

On the Proportion of Watery Parts in Vegetable Substances.

In the chemical analysis of vegetable bodies, we ought previously to attend to the circumstance of their being completely freed from all humidity. To ascertain this, let us weigh a determinate quantity, for instance, one hundred arbitrary parts of the substance under inquiry, whether this be an herb, a root, bark, flower, or wood.

The question here is of such vegetables as have been previously dried in the air, and deprived of the greatest portion of their humidity. If the experiment is to be made with green vegetables, we may choose the recently expressed juices for the analysis; but in this case likewise, an accurate knowledge of the quantity of water it contains will be indispensibly necessary. Hence it will be proper to dry a certain quantity of the fresh herbs, ascertained by weight, in order to learn how much they have lost of their aqueous parts. By this comparative estimate we shall be enabled to determine, with tolerable precision, the relative proportion between vegetables in a fresh and a dry state.

After these arrangements, a small portion of the vegetable substance is put into a well-coated retort, with a similar receiver, and the whole is submitted for two hours, to what is called the water-bath. Although an experienced operator may employ the sand-bath with equal advantage, by a very careful management of the fire, and the use of a good thermometer, by which he can manage the degree of heat, so as not to exceed the boiling point; yet the former process is incomparably safer, inasmuch as it will effectually prevent too high a degree of temperature, as well as the decomposition of the vegetable matter under examination.

Having attended to these particulars during the operation, there will be usually found in the receiver a small quantity of a liquid, which, if the distilled substance was of an odoriferous nature, will be generally mixed with some essential oil. Meanwhile, we shall find in the retort the residuum of the distilled substance, in a state of absolute dryness, in which all other constituent parts remain unchanged, but deprived of their liquid. If both the receiver and the retort have been properly coated previous to the operation, the quantity of the liquid passed over in distillation will be evident from the increase of weight.

After removing the dry residuum, it sometimes happens that the retort also has gained an accession of weight, which is generally owing to some particles of ethereal oil having remained attached to its sides.

If the substance thus distilled was destitute of odour, the liquor obtained from it may be considered in the analysis as pure water. But if the substance contained an essential oil, or was combined with other volatile and fragrant particles, then the water in the receiver is either impregnated with odour, or the essential oil itself swims on the top. In the former case, the volatile and fragrant matter consists either of pungent (acrid) or narcotic parts, which deserve farther investigation. In the latter case, the oily parts may be separated by means of cotton, and their weight deducted from that of the whole fluid mass. It deserves, however, to be remarked, that a small quantity, perhaps the 80th, or only the 100th part of the oil remains dissolved in the fluid residuum.

On the ſeparation of oleaginous matter, or ethereal oil, from vegetables.

If a vegetable ſubſtance, after previous examination, is ſuppoſed to contain any conſiderable quantity of eſſential oil, the following proceſs may be adopted for aſcertaining it by experiment. In the firſt place, we muſt procure ſeveral quarts of a ſtrong diſtilled water, from the ſame ſubſtance. Another quantity of that ſubſtance, not leſs than one pound weight, muſt be cut in ſmall pieces, and put into a retort with ſix times its weight of the diſtilled water. Two thirds of this fluid are now to be drawn off by diſtillation, which is moſt advantageouſly performed in the ſand-bath. The oily parts thus ſeparated will be found in the fluid paſſed over into the receiver; and, as the water here employed was previouſly impregnated with as great a portion of ethereal oil as it was capable of holding in ſolution, the quantity of the oil obtained by this proceſs, may be conſidered as the true proportion exiſting in a given weight of the plant.

Theſe oleaginous particles frequently appear under different forms: they commonly either ſwim on the water, or ſink to the bottom, on account of their greater ſpecific gravity, which is particularly the caſe with the aromatic productions of hot climates; or, laſtly, they appear ſo intimately blended with the water, that it aſſumes an opaque, milky appearance. In the laſt caſe, the produce of diſtillation ought to be kept quietly, in a cloſe glaſs veſſel, for ſeveral days or even weeks: during which time the liquor generally becomes tranſparent, and the oily parts will be found adhering to the ſides, or bottom of the veſſel. Such oil, being in a manner cryſtallized, may be eaſily melted by heat, and poured out of the veſſel.

On the method of obtaining camphor.

Some vegetable ſubſtances, beſides the eſſential oil, contain likewiſe a portion of camphor, as one of their primary conſtituent parts. This ingredient may ſometimes be diſcovered by the ſmell, and the cooling, pungent taſte of ſuch ſubſtances; for inſtance, in the peppermint, cardamoms, &c. Such being the caſe, we may juſtly conjecture, that ſome camphor will be diſengaged by diſtillation, either in its pure ſtate, or in combination with eſſential oil. From this it may again be ſeparated, but not without a ſmall loſs of both, in the manner following: Diſſolve the whole of the camphorated oil, thus obtained, in a proportionate quantity of alkohol; which is capable of combining with the camphor as well as the eſſential oil. Dilute this ſolution with twelve parts of diſtilled water: if the oil contained no camphor, the water uſed for the mixture will remain clear and tranſparent; the alkohol will gradually combine with it, and the oily particles ſeparate. If, on the contrary, the oil was mixed with camphor, the whole of that fluid on mixing it with water, will be converted into milky liquor, from which the camphor will gradually be precipitated in the form of a white powder, while the oleaginous parts aſcend to the ſurface of the water. By melting this powder in a cloſe glaſs veſſel, over a gentle fire, it will acquire the concrete form of camphor. The remaining liquor, however, will always retain ſome ſmall portion of the oil as well as the camphor.

On the proceſs for ſeparating gum.

As vegetable ſubſtances ſeldom, if ever, contain gum in a pure ſtate (for this is almoſt uniformly mixed with the mucilage, ſoap, and reſin), it will be neceſſary, in the analyſis we undertake, to pay proper attention to theſe circumſtances.

Having previouſly aſcertained the exiſtence of gum in a vegetable body, we may proceed to analyſe it in the following manner:

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1. A determinate ſmall quan[illegible] ſubſtance under experiment, according to weight, ſhould be plac[illegible] a glaſs veſſel, provided with a neck and receiver: four or ſix times the [illegible]e quantity of the ſtrongeſt alkohol, by weight, muſt be adde[illegible] to the vegetable; and the whole kept for eight hours in tolerably ſtrong dig[illegible]ion.

2. After this, the liquor, as well as the whole of the macerated ſubſtance, muſt be ſtrained through a linen cloth. The reſiduum muſt then be again digeſted, for the ſame length of time, and with a ſimilar proportion of alkohol; after which, the extract is to be treated in the ſame manner as before.

3. As we may now be aſſured, that all reſinous and ſaponaceous matter, if ſuch exiſted in the ſubſtance, have been diſſolved in the alkohol, we ſhall find in the extracted reſiduum only the fibrous or woody parts, with the gum, and not unfrequently ſome mucilage.

4. In order to ſeparate thoſe parts, diſtilled water is to be poured on the reſiduum, and ſtrongly boiled with it in a tin kettle. The fluid part is afterwards poured off, freſh water is added, and the decoctions are repeated, until the water manifeſt neither taſte nor colour, and the remaining vegetable fibre be likewiſe deprived of all ſapidity.

5. This operation being finiſhed, the remaining vegetable fibre is preſſed through a ſmall linen bag, which ought to be previouſly weighed; and after the bag and its contents have been completely dried, we ſhall find, from its ſubſequent weight, nearly the exact quantity of all ſoluble conſtituent parts which have been extracted during the operation.

6. The whole of the watery decoction thus obtained, after being properly [illegible]ered, ſhould be ſtrongly concentrated by ſlow evaporation, and afterwards [illegible]fered to ſtand quietly in a glaſs veſſel, ſlightly covered. If, during this [illegible]ime, ſome pulverulent matter ſhall fall to the bottom, it uſually conſiſts of reſinous particles, and ought to be preſerved, together with the ſpiritous extract.

7. If, on the contrary, after ſeveral days, the liquor ſhould ſtill appear tranſparent, it then ought to be evaporated to complete dryneſs, in a glaſs veſſel (previouſly weighed) over a very gentle fire: in this caſe, the increaſe of weight in the veſſel will point out the quantity of the ſubſtance obtained.

8. If the extract was pure gum, the whole will be tranſparent, vitreous, [illegible]d of an uneven fracture; but if it, at the ſame time, was mixed with mu[illegible]laginous matter, the inſpiſſated maſs will preſent a horny and ſemi-pellucid appearance, and have a granulated fracture.

On the Separation of Reſinous Matter.

If a plant ſubmitted to analization contained *gum*, it will be found either in a ſeparate ſtate, or combined with ſaponaceous matter. In order to ſeparate theſe two conſtituents of vegetable bodies from each other, they muſt be treated throughout as has been ſtated in the preceding ſection, relative to the ſeparation of gum; by which means we may obtain the reſin and ſoap, in a combined ſtate, diſſolved in the alkohol.—In order to ſeparate them effectually from each other, we proceed in the following manner:

1. The ſpirituous extract is poured into a retort, with the addition of the fourth part of diſtilled water: this mixture is ſubmitted to diſtillation, as long as a drop of ſpirituous liquor paſſes over into the receiver.

2. After this diſtillation is finiſhed, we ſhall find in the reſiduum reſinous matter, mixed, perhaps, with ſome remaining ſaponaceous particles.

3. The whole muſt now be evaporated, by a very moderate heat (in a glaſs veſſel, previouſly weighed) until it be perfectly dry. From the difference of weight we ſhall find the abſolute quantity of reſinous and ſaponacious matter.

4. In order to ſeparate theſe tw[illegible] ſ[illegible]nces from each other, the whole ſhould be mixed with four times i[illegible] weight of vitriolic ether; the retort muſt be provided with a proper neck and receiv[illegible]r, and the mixture ſuffered to digeſt. If a complete ſolution be the reſult, we may conclude that it conſiſted of pure reſin; as, in the contrary caſe, the reſinous matter was mixed with that of ſoap.

5. After the firſt extraction has been performed, the coloured liquor ſhould be poured off, and the reſiduum again digeſted in a new ſupply of vitriolic ether; an operation which ought to be repeated, until the ether newly employed retains its natural colour.

6. If theſe directions be ſtrictly followed, the matter of reſin will be completely diſſolved by the ether, and cleared of the ſaponaceous particles.—Now the different extracts made with ether ſhould be poured into a tubulated retort, provided with a receiver, (the weight of which has been previouſly marked) and diſtilled over to dryneſs; thus the ether will be obtained in the receiver, and may ſerve for further experiments. After the retort has become perfectly dry, its increaſe of weight will ſhew the exact quantity of reſin gained in the proceſs.

On the Separation of Saponaceous Matter.

The experienced operator on vegetable ſubſtances cannot fail to have obſerved, that the matter of ſoap always forms in them one of the principal conſtituents, ſerving as a vehicle and mean of combination for many other ſubſtances which cannot be ſeparately exhibited. The ſaponaceous in[illegible]dient, therefore, requires a principal ſhare of attention in the analyſis [illegible] vegetable bodies; for much depends on its accurate ſeparation, if we [illegible] to aſcertain the conſtituent parts of vegetables with a due degree of preciſio[illegible]

To obtain the matter of ſoap in a ſeparate ſtate, the proceſs to be purſued is exactly ſimilar to that already pointed out for the ſeparation of reſin; for in the preſent caſe, the former ſubſtance ſpontaneouſly remains behind, if the mixture, conſiſting of ſaponaceous and reſinous matter, has been previouſly cleared of the reſinous particles, according to the method already deſcribed. It only requires to be once more diſſolved in water, filtered, and the liquor evaporated to dryneſs, in order to learn the abſolute quantity of ſaponaceous matter; and to be convinced that it contains no admixture of [illegible] gummy or mucilaginous particles.

On the Separation of Saccharine Matte[illegible]

If vegetable ſubſtances be remarkable for their ſweet ta[illegible] [illegible] without heſitation infer, that they contain the ſaccharine principle; but, as this is very frequently blended with gummy, mucilaginous and particularly with ſaponaceous matter, it ever remains a ſubject of conſiderable difficulty to exhibit the ſugar in a pure and perfect ſtate. Where this valuable ſubſtance is contained in abundance, the operation proves ſometimes ſucceſsful, by extracting ſuch bodies with alkohol, filtering this extract while hot, and afterwards allowing it to grow cold in a quiet place. By this mode of proceeding, real ſugar has frequently been found precipitated in grains.

So far Dr. Hermbſtaedt's papers, of which [illegible] are in poſſeſſion at preſent. As we are in daily expectation of receiving ſome further accounts from this valuable practical chemiſt; and as Mr. Achard, of Berlin, has lately made very ſucceſsful experiments with the beet root, or the famous *mangel-wurzel*, from which he affirms that he has obtained ſugar of a pure kind, in the proportion of about one pound to fourteen of the freſh root, and this by *an eaſy and che[illegible]p[illegible] [illegible]ceſs*, we hope to be ſoon enabled to lay before our readers, the *authentic* particulars of theſe new and highly intereſting diſcoveries.

HINTS

HINTS [illegible] IMPROVEMENTS

IN THE PRACTICE OF

MEDICINE AND SURGERY.

On the Treatment of Biliary Calculi, Stone and Gravel.

IN our laſt Number, p. 494, we gave a ſhort account of the ſucceſsful treatment of biliary calculi, by the internal uſe of vitriolic ether and ſpirit of turpentine. We alſo mentioned that M. DURANDE, a French phyſician of Dijon, had firſt preſcribed this powerful remedy. In juſtice to our countryman, C. White, of York, we ſtate that he originally diſcovered this remedy, in conſequence of the experiments he made, by diſſolving biliary calculi in a mixture, conſiſting of alkohol and turpentine.

M. Durande, however, has the merit of having firſt employed vitriolic ether in preference to alkohol, with almoſt uniform ſucceſs, and of having furniſhed us with a more detailed account of the remedy.

There is ſcarcely a diſeaſe, with the cauſe and origin of which we are ſo imperfectly acquainted, as that of biliary and urinary concretions; and, as all the remedies hitherto employed have ariſen from hypothetical indications, we need not be ſurpriſed at the want of ſucceſs in the treatment of this painful and formidable diſorder. Although it be certain, that the formation of concrete matter in the kidneys requires a particular diſpoſition of the body, without which it will not take place, yet it is equally certain, that occaſional cauſes co-operate, ſuch as the uſe of hard and indigeſtible food, a ſedentary life, exceſs in wines containing much acid, and particularly the want of diluent watery drink. If a perſon is once afflicted with renal calculi, urinary concretions will ſoon follow, if the ſmalleſt particles of the former deſcend through the ureters into the bladder; and there increaſe in [illegible] by combining with the ſediment precipitated from the urine, unleſs they be ſpeedily waſhed away by that fluid. And as every individual may obſerve a greater or leſs quantity of this precipitate in his urine, it is evident that urinary concretions may ariſe without any prediſpoſition to biliary calculi, if foreign bodies get into the bladder, and remain there [illegible] to combine with the urinary precipitate.

The ætiology in theſe caſes being ſo obſcure, that the practitioner is frequently led, not unlike the lame man, by the blind, in the dark, Dr. WILLICH was induced to preſcribe M. Durande's compoſition, in a recent caſe of a patient, who, for ſix years, had been afflicted with ſpaſmodic ſtrictures of the urethra, and extreme difficulty of voiding urine, accompanied with excruciating pain in the region of the kidneys, and frequently extending to the lower vertebra, and the whole abdomen. The patient being of the advanced age of eighty, yet of a robuſt conſtitution, having led a ſea-faring life, and being accuſtomed to ſtrong food and the uſe of ſpirituous liquors, the pre-diſpoſing cauſes to gravel were manifeſt; while the character of the diſeaſe was eſtabliſhed by the diſcharge of gravelly urine, mingled with blood and mucus.

As he had paſſed no urine for ſeveral days, and could not be prevailed upon to apply the catheter, or at leaſt try the uſe of bougies, Dr. Willich preſcribed as follows: R. *Æther. vitr.* dracm. iij. *ſpir. teberinth. pur.* drachm

drachm ij. M.—Of this mixture, gently shaking it every time previous to its use, ten drops were at first ... to be taken every hour; these were gradually increased to twenty drops: next day the patient was directed to take twenty-five drops every two hours, in cold water sweetened with honey; and, after continuing this medicine for three days, observing a proper diet and regimen, keeping the body open by the plentiful use of prunes, apples, &c. and fomenting the abdomen with an infusion of chamomile flowers, wth the addition of one ounce of laudanum to every quart of the infusion, the patient was only relieved from pain, but on the third night (after having taken 35 drops of laudanum to allay the spasmodic tendency of the system, and procure sleep) he involuntarily discharged such a quantity of urine as must, according to the account given by his nurse, have amounted to several gallons. However this may be, it is indisputable that the relief in this case was principally owing to the *gradual* action of the compound.

The efficacy of this remedy has lately been sufficiently confirmed by the respectable authorities of Dr. Starck and Professor Sommering, of Mayence, who have observed its salutary effects in a variety of cases, in which this composition, after it had been used for a few days only, relieved the most distressing symptoms, and caused the patients to discharge urinary calculi in small pieces.

On the poisonous Effects of Mineral Acids.

In the '*Recueil Periodique*' No. xxxi. published by the Medical Society of Paris, we meet with an interesting article, communicated J. B. Des GRANGES, physician at Morges, in Switzerland. The author states the case of a soldier, who, by mistaking it for brandy, had swallowed a glass-full of the sulphuric acid; and, in consequence of its violent action, was carried to the hospital, where the author found him in the agonies of death. He instantly prescribed the following antidote, the good effects of which he had frequently witnessed: viz. a drachm and a half of the carbonate of magnesia (magnesia usta aërata) dissolved in a tea cup-full of pure water. This dose produced excessive vomiting; and, after repeating the magnesia in the proportion quantity of half a drachm, every half hour, for about half a dozen times, and giving at intervals the solution of gum arabic with sugar, the patient completely recovered.

Desgranges mentions, among other cases, that of an artist, ... years of age, who, in the moment of despair, swallowed more than half a wine-glass-full of nitrous acid; he immediately felt a violent heat and irritation, extending from the throat to the stomach. When the author arrived, (the time not being specified) his patient was seized with convulsive vomiting, and other symptoms, similar to those of the soldier mentioned in the preceding case: he instantly prescribed a drachm of pure magnesia, with some sugar dissolved in water, and soon after it half a drachm, which stopped the vomiting. He then directed a scruple to be taken every half hour, which, in less than three hours, relieved the patient from pain; on the following day, there was a considerable swelling and tension in the inner part of the throat, difficulty of breathing, painful deglutition, and gangrenous spots appeared about the mouth. The author, on this occasion, observes, that this was a real gangrenous quinsey, but produced by a cause merely accidental or factitious. He consequently bled the patient twice within less than twelve hours, one of which bleedings was performed on the foot. At length, after the applicati

of mild purgative clysters, [illegible] to abate the miliary eruption on the skin, which was accomp[illegible] with intolerable itching, and which took place about the [illegible] the accident, the patient was effectually cured.

The author's fifth [illegible] relates to a singular case of a young woman, who had been imprudent enough to rub her hair with a pomatum, of which arsenic formed an ingredient, with a view to destroy vermin. Six days after using this pomatum, the whole head of the patient became swelled, and she suffered the most excruciating pains over the whole body. Desgranges was consulted; he bled her freely, especially on the foot; [illegible]ed chicken-broth for her drink, with a small portion of nitre; frequent washings with a decoction of linseed; mercurial honey; cordials; warm bathing of the lower extremities, &c. &c. Besides these remedies he caused her head to be rubbed with *Baume's pomatum*, made of a cream and a fourth part of the powder of white chalk. He next applied from eight to ten leeches to the thighs, which produced an uneasy night; the swelling of the head appeared to have increased; and in the morning the whole body was covered with a considerable eruption of small spots, with white points resembling millet, extending even to the hands and feet. In this extremity the author again had recourse to his favourite remedy, and ordered his patient repeated doses of calcined magnesia, with the syrup of marsh-mallows, "which obviously increased the evacuations of the primæ viæ." In short, the eruption subsided, and all the alarming symptoms abated in forty-eight hours, so that the patient was declared out of danger in eight days.

M. Desgranges accompanies these cases with some desultory remarks on the imminent danger attending the external application of arsenic: and he observes one of its constant effects is, that the bodies of those who use it, are uniformly covered with blotches.—As to his liberal administration of the magnesia, we have no other objection than what has been already pointed out by the editor of the 'Recueil Periodique,' that magnesia may not always be convenient; and that, delay in these cases being attended with danger, there is a remedy more simple and equally effectual, one of which will be found in or near every cottage as well as in the palaces of the great—that is, *simple water* taken in *sufficient quantity*, which will not only dilute the most virulent poison, and reduce its acrimony so far as to blunt the sharp points, in the instance of arsenic,—but it will likewise inundate the stomach as well as the intestines, and operate either upwards, as an emetic, or as carthartic, carrying the deleterious matter, through the intestine canal, without much injury to the coats of the stomach and bowels.

On the Treatment of Gangrene and Sphacelus.

In a late treatise, published by C. White, of York, containing remarks on sphacelus, particularly that species which is accompanied with convulsive symptoms, and has arisen from local external injury, we meet with a new method of cure proposed for that complaint. It consists of a combination of musk with sal cornu cervi volatilis, in equal proportions. The patient begins by taking 10 grains of each, or 20 grains of the compound, and increases this dose gradually to 80 or 100 grains, and upwards, of each. The effects of this medicine are stated to be such as deserve the greatest attention of practitioners, but we do not find that it has been generally employed, unless by foreign practitioners, who speak of it in the highest terms of commendation.

Another remedy of uncommon efficacy in gangrene and malignant inveterate ulcers, stands recorded on the authority of Dr. Collin, of Vienna, who affirms that he found it equally successful in both humid and dry species

of ſphacelus. In the former, he d[illegible]acelated part to be covered with the powder of camphor, pretty [illegible] in the latter caſe, to apply a ſtrongly camphorated liniment. See [illegible]*dbuch der practiſchen Arzneymittellehre.* Edit. 2. p. 318.

The ſuperior efficacy of this remedy is further [illegible]ed by the celebrated veteran, C. C. Hoffman, of Mayence, who has frequently [illegible]bed it with ſingular ſucceſs in the confluent ſmall-pox, when little hope remained of the recovery of the patient: and in the caſe of a German lady of high rank, after the [illegible]verous fetor had driven all her relati[illegible] from the palace, he within twelve day[illegible]ed no leſs than *eighty ounces of camphor,* partly by giving a ſcruple every [illegible] hour internally, and partly by keeping the patient continually covered with camphorated liniment. [illegible]. Monch, another German phyſician, in a ſimilar manner, employed not leſs than *ten pounds and five ounces* of camphor, within twenty-two days, in the caſe of a young woman, twenty-two years of age, labouring under a confluent though benign ſpecies of ſmall-pox, without giving ſuch large doſes internally as in the preceding caſe treated by Dr. Hoffman; but Monch's patient died, notwithſtanding that prodigious quantity of camphor had been uſed, and the whole body was covered with a dark brown cruſt. *Ibid.* p. 320.

In our ſecond Number we gave a ſhort account of various new methods deviſed for treating inveterate ulcers, in which we particularly mentioned (p. 188.) the excellent antiſeptic qualities of the *Auguſtura bark.* Dr. Willich has ſince preſcribed it, in two caſes, with obvious good effect. One of his patients was a lady, in the primary ſtage of phthiſis pulmonalis, who had been troubled for ſeveral months, with an ulcer on each of the heels, immediately below the ancle, the conſequence of miſmanaged chilblains, both being extremely painful, of a livid hue, and ſphacelous appearance; the other patient was a ſeafaring man, of a ſcorbutic taint, about fifty years of age, who, from an external injury which he had received many years ago was afflicted with ſeveral inveterate and troubleſome ulcers, extending from the ancle to the inner part of the calf, on the right leg.—By a ſtrict attention to *diet* and *regimen,* and the external application of Auguſtura bark, in powder, by covering the ulcers completely, and renewing the dreſſings twice a day, the former patient was relieved in leſs than three weeks, while the ul[illegible] of the latter did not ſhow a diſpoſition to heal and to cicatrize till he h[illegible] uſed the powder for upwards of a month, ſo that in about f[illegible] were completely healed.

Although two caſes of this nature, imperfectly related, do no[illegible]ecide the value of a medicine, which is already, and more forcibly, recommended by great authorities; yet, Dr. Willich is of opinion, that the Auguſtura bark certainly deſerves to be more frequently employed that it is at preſent; for it appears to be almoſt entirely neglected or forgotten. Perhaps this may be aſcribed to the circumſtance, that it has, like moſt other powerful remedies, within theſe few years been converted into a kind of noſtrum—a quack-medicine—which could not fail to be frequently miſued, or miſapplied, by the ignorant multitude.

Miſcellaneous Facts and Remarks.

In conſequence of a hint given in our firſt Number, p. 83, reſpecting Dr. Archer's ſucceſsful method of curing the croup, by means of the ſeneka-root, we have lately received a letter from Mr. T. Purton of Alceſter. After

After having obſerved that h... cauſes and cure of that diſeaſe, lately publiſhed in the Gentleman's Magazine, is ſufficiently explicit and correct, the author has favoured us with the following remarks:

"The cauſes which produce croup and thoracic inflammation, either partial or general, appear to me to be one and the ſame. Inflammation is generally of the phlegmonous kind, attacking thoſe habits particularly, who poſſeſs an inflammatory diatheſis: and, therefore, the main object, which every practitioner ſhould have in view, is, to reduce the inflammation as ſpeedily as poſſible, before the exudation of the coagulable lymph take place; for, when once the membrane is formed, I ſhould think there will be very little chance of the patient's recovery. I ... patient only who got well, and that I thought in rather a miraculous manner. I then gave a very ſtrong emetic ſolution, which brought up a quantity of ...py matter, and with exceſſive ſtruggling, portions of membrane, nearly of the tenacity of the cuticle.

"Children, after they once become affected with this terrible complaint, are very liable to ſecond attacks, whenever they catch cold, but the ſucceeding ones are generally leſs violent. I ſhould conceive this took place upon the principle of habit, as all parts once affected with this violent diſeaſe, are certainly more open to future attacks than thoſe which have never been affected.

"If the ſeneka acts as an emetic, or otherwiſe by its ſtimulus, upon the top of the trachea, ſo as to throw up the coagulated lymph, it may certainly ſometimes cure, as nothing there but mechanical means can poſſibly effect a cure;—but if I may preſume to give my opinion, it would be, that ninety-nine patients out of one hundred would die, or even a much greater proportion, if we imprudently waited, or were not called in, till the child was in the laſt ſtage of the diſeaſe."

The *Aqua Lauro-ceraſi* has formerly been recommended by medical writers on the continent, as an excellent remedy (in the phraſe of the humoral pathologiſts) for attenuating viſcous blood, and reſolving humours in a ſtagnant ſtate, without occaſioning preternatural heat, or fluſhings. Dr. THILENIUS has lately called the attention of practitioners to this powerful remedy, which, he ſays, in his 'Medical and Chirurgical Remarks,' is eminently calculated to reſolve thick black blood ſtagnating in the veſſels and almoſt deprived of its ſerum. He preſcribed from forty to fifty or ſixty drops of this medicine, to be taken from three to four times a day, with evident ſucceſs, in caſes of hypochondriaſis, melancholy, mania, the blind hæmorrhoids, or ſuppreſſion of the menſes, obſtruction of the liver, &c. provided they originated from an undue conſiſtence of the blood. It had the effect of changing the black and heterogenous maſs of the blood, ſo that it, after uſing the remedy from fourteen to twenty-four days, acquired a more florid colour, became of a thinner conſiſtence, and afforded the due proportion of ſerum. The doſe of the diſtilled laurel-berry water was in ſome inſtances, increaſed to eighty drops and upwards. Dr. Thilenius also occaſionally, and with ſingular advantage, added a few drachms of it to the emollient clyſters preſcribed for his patients.

The *Magiſterium Biſmuthi*, which was firſt recommended by Dr. ODIER, about the year 1786, appears to be either neglected or forgotten, although it is ſtated to be a powerful remedy in ſpaſmodic pains of the ſtomach and bowels, particularly if it ariſe from organic debility or a relaxed and emaciated conſtitution. One of our correſpondents affirms, that he has lately preſcri-

prescribed it in two or three cases of the above nature, not only with apparent, but with permanent good [illegible] much that the cramp of the stomach, which had usually returned [illegible]e or twice in the month, did not trouble his patients for six and twelve months together. He gave at first one grain of this metallic calx every half hour, for three or four times, which generally relieved the pain; but, on a second return of the cramp, he either gave a grain every quarter of an hour, with half a grain of opium, or, if the pain was not intense, a grain and a half of the bismuth every hour, without [illegible]. In one case, four grains of the calx afforded no relief, t[illegible] grains were given for a dose, with one grain and a half of [illegible] effectually relieved the patient; so that the greatest quantity of the bismuth taken in one paroxism, at repeated doses, did not exceed five grains.

If the magistery of bismuth could be obtained in a perfectly pure state, that is, free from all particles of lead or arsenic, which are not unfrequently combined with that semi-metal, we should not hesitate to direct even larger doses to be given, at proper intervals: but, as we are already possessed of a very excellent and powerful antispasmodic of a similar nature, the *flores zinci*, it remains to be decided which of the two deserves the preference.

In our second Number, p. 189, we communicated an account of Dr. Mitchill's method of applying topically, the *carbonat of potash*, for the cure of *venereal ulcerations*, with surprising expedition. We have since been informed by several of our medical friends in the metropolis, that they have observed similar good effects from the use of alkali, particularly in cases of chancres. In the course of our researches in foreign medical Journals, we found that the *caustic vegetable alkali* (according to the "*Medical and Chirurgical Gazette*, published by Dr. Hartenkeil, of Salzburgh, No. 61, for 1792) has, even prior to that period, been employed by German practitioners, in the cure of gonorrhœa. The reviewer of Dr. Grasmeyer's method of ascertaining the difference between pus and mucus, coincides in opinion with Dr. G. that the caustic vegetable alkali changes pus into a tough matter which may be drawn in threads. He endeavours to explain the modus agendi of the alkali by the following proposition: "That, if the matter discharged in gonorrhœa, which is not essentially different from pus, be inspissated, it is then likewise deprived of its acrimony, becomes mild or less stimulant, and consequently will no longer support the inflammation; this, as the principal symptom of the disease, gradually subsiding, and the exciting cause ceasing to operate, the subsequent effect is obvious."

In the "Magazine for improving the Theory and Practice of Medicine and Surgery," No. I. of Vol. I. published by Dr. Weikardt, of Heilbronn, who dedicates his periodical labours to the favourers as well as the opponents of the Brunonian doctrine, we met with a new mode of treating the *venereal disease*, as practised in Hindostan. The whole secret consists of a mixture of *arsenic* with the *ashes of the cedar*. We regret that we cannot state the proportion of this mixture, the doses in which it is taken, or the particular stages of lues in which it has been found effectual.

In the same Number, Dr. Weikardt has inserted an Essay, "On the method of distinguishing the prevalence of the sthenic from the asthenic state in diseases," a subject of the first importance to a Brunonian. On a future occasion, perhaps, we may lay before our readers the substance of this essay, to enable them to decide, how far Dr. W. has fulfilled the duty which he assigned to himself by engaging in this arduous task.

MEDICAL

MEDICAL AND P[illegible]S[illegible]AL INTELLIGENCE,

(Orig[illegible] [illegible]rected.)

WHILE some of our European, [illegible] well as transatlantic chemists, are still [illegible]uting on the nature and propert[illegible] of *phlogiston* and *caloric*, Professor WER[illegible]ER, of Giessen, in his work, "*On Ætiology*, and "*The Journal for propaga[illegible] Truth*," has lately endeavoured to prove that, according to his peculiar philosophic system, and from an analytical inquiry into the nature of our senses, *there e[illegible]ists neither matter of heat, calori[illegible] nor matter of light, lumiere*; althou[illegible] our naturalists and philosophe[illegible] bestowed much time and great attentio[illegible] on these elementary sub[illegible].

In the 88th number of the '*Annales de Chimie*,' the [illegible]QUE-LIN has inserted a paper '*O[illegible] the Excrement of Fowls, compared [illegible] their Nourishment*; with some Observations on the Formation of the E[illegible].' He found in the ashes of the oat-grain, silex and phosphat of lime. M. DAVY observes on this occasion, that he has not yet had time to examine [illegible] grains or seeds, but it is more than probable that the silex exists in the epidermis of the oat-grain, and not in the farina. The husks of wheat and barley, as well as the [illegible]eds of grapes, and hard shells, and capsules of fruit, will, he has no doubt, be found to [illegible]in flint. *Ibid.*

In consequence of the former experiments made by Professor LOWITZ, M. DEVAU[illegible], of Petersburgh, communicates the following simple *process for freeing [illegible]olasses from their sharp taste*: To 24lb. of molasses, let 24lb. of pure water be added, together with 6lb. of charcoal in coarse powder, and let the whole be boiled for half an hour over a moderate fire. This mixture is then to be poured into a shallow vessel, where the charcoal will subside to the bottom: and, after the liquid has been poured off, it is again exposed to the action of heat, so that the superfluous water may evaporate and the molasses be reduced to its former consistence. By this process the molasses becomes much milder, and is rendered fit for various culinary us[illegible]s.

Professor TROMMSDORFF, in a letter to VAN MONS, observes, that one of his friends has discovered *calcareous earth in a crystallized state*, in the form of fine needles. This discovery the Professor considers as a further support of his late proposal, for classing that earth among alkaline bodies.

M. KLIPSTEIN, has lately analysed a species of *quartz*, of a violet colour, [illegible]d at Obenwalde, in Germany: it contained 0.40 of silex, 0.53 of alu[illegible], 0.03 of magnesia, and 0.05 of oxyd of iron.

[illegible] combining, by digestion, either with the red oxyd of iron, TROMMSDORFF observed, that the oxyd was dissolved, and a *martial ether* readily ob[illegible] [illegible] is shorter and more certain than the former method (of dissolving the iron filings first in sulphuric acid, evaporating the solution, [illegible]en re-dissolving the crystals *per deliquium*, and afterwards mixing the fluid with equal proportions of alkohol and vitriolic ether), and consequently deserves to be adopted in the practice of pharmacy.—*Ibid.*

The same Professor has again made a great number of experiments, with a view to reduce *zircone*, but they have all been unsuccessful; and he is consequently of opinion that this substance ought to retain its place among the earths. The prussiat of potash, contrary to the supposition of the celebrated VAUQUELIN, does not precipitate *zircone*, though in a pure state. The *zoonic a[illegible]* will probably lose its former particular rank assigned to [illegible] by the classification of *Berthollet* (namely that of partaking both of animal and vege[illegible]le nature). *Tromsdorff* says, that he has much reason t[illegible] think

think it is analogous to the sebacic acid, which formerly engaged the attention of Von Crell. *Ibid.*

Wiegler has chemically analyzed the *black chalk of Bayreuth*, and found that this mineral does not effervesce with acids; when exposed to the action of fire it gradually loses its black colour, assumes a reddish appearance, and at length experiences a deficiency of ... Its component parts are as follow: silex 64.5; alumine 11.25; ferruginous earth 2.75; carbon 11; concrete water (hydrogen) 7.5. Total 97.00. Loss 3.—*Ibid*. No. 88. p. 13.

Van Mons has furnished us with a method of *purifying gum resins*, which deserves the attention of both the chemist and the apothecary. He first proposes to ... them by way of emulsion and trituration in a mortar; to those ... contain an excess of resin, he adds a small quantity of gum arabic ... the cherry-tree, to re-unite the resinous milky liquor, and he then ... them to a proper consistence, by means of the water bath.

M. Hildebrandt has contrived a new method of preparing *the red oxyd of mercury*, by means of the nitric acid. He first directs to deprive the nitrat of mercury of its water of crystallization, to reduce his "powder, by calcining it in an earthen crucible, while it must be shaken during the whole process. The French editor observes that the oxyd thus obtained can never have a fine red colour, but must be of a reddish brown and earthy appearance.

Kasteleyn informs us of a *new method of making vinegar*. A mixture, consisting of 72 parts of water, and 4 parts of a rectified spirit of grain, being exposed to a proper temperature, for the space of two months; is during that time converted into perfect vinegar. The editor of the "*Annales de Chimie*", remarks, that this process is not always successful.

A Defence of the Cæsarian Operation. By John Hull, M. D. &c. &c. Bickerstaff.

This Volume is intended as a refutation of the principles advanced in the treatise, quoted in the title-page, on the merits of which we have already pronounced our opinion in the third Number of this Journal, p. 308 and 309.—We did not indeed, then, think proper to take notice of the unfortunate dispute subsisting between the two authors, any further than what related to the point in question. Our limited room will not permit us to enter into a detailed account of this contested subject; but, in justice to the author of the volume before us, we allow him the merit of having furnished a very learned treatise, abounding with historical and critical quotations. Whether he has exhausted the subject, or even elucidated the question, as to enable us to form a conclusive opinion on this intricate operation ... shall not venture to decide.

In consequence of this work, which appeared after the publication of ... Simmons's "*Reflections*," whom, therefore, Dr. Hull considers as the aggressor, we have had occasion to notice another pamphlet written by Mr. S. in answer to the doctor's '*Defence*,' of which, we have already given a short account in our last number, p. 410 and 411. In reply to this pamphlet, the temper of which we cannot admire, Dr. Hull has been induced to publish. *Observations on Mr. Simmons's Detection, &c. &c. with a Defence of the Cæsarean Operation*. By John Hull, M. D.

It will not be expected by *temperate* readers, that we should add another sentence tending to extend the boundaries of this literary warfare, as we have no inclination to change our opinion quoted in the account of the preceding article; hoping sincerely that this production will terminate the dispute, without carrying it to any other but a *literary forum*.

END OF VOL. I.

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But this is not all: ſuch of theſe gentlemen as are fortunate enough in fixing on ſhore, will not quit their retirement when another war commences, and thus an immenſe loſs of experience in naval practice will be ſuſtained; and the brave man muſt be again committed to the treatment of ſome raw and untutored adventurer in phyſic.

Surely ſuch a cauſe as this would better become a Britiſh Senator than the empirical trumpery of any *fumigating* proceſs. For on the temporal encouragement beſtowed on the medical profeſſion, muſt in a great meaſure depend the manly and active exertions of the duties which belong to it.—*Sic deus faxit!*

N. B. Communications for the future editions of this work may be addreſſed, *poſt paid*, to the author.

FINIS.

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